THE INTERNET AS A TOOL TO STRENGTHEN ECONOMIC POLICIES

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I. EXECUTIVE SUMMARY

The objective of this study is to develop new approaches for USAID to promote economic reform in developing countries and transitional societies via use of the Internet. This first deliverable inventories Internet uses among USAID and other donors, other U.S. Govern-ment agencies and non-governmental organizations. It also analyzes ten relevant Internet applications and draws some tentative conclusions on new approaches for USAID.

The Internet, a vast network of computer networks which are able to communicate with one another, has been revolutionizing the way individuals and institutions in America and around the world relate and work with one another. One hundred million computers should be wired into the global Internet by the year 2000. Yet access is uneven, particularly in developing countries. Africa, for example, only has one percent of the phone line density of industrial countries. Surprisingly, 82% of USAID countries have full Internet connectivity and 77% of USAID Missions responding to a survey reported some use of the Internet. However, all too frequently, Internet use is limited by poor service and high prices due to government controls on the telecommunication industry.

Despite limited (but growing) service in developing countries and transitional societies, the Internet is beginning to serve as an effective development tool. While hard evidence of the power of the Internet to directly contribute to economic policy reform is scarce, there are enough examples to suggest a correlation and significant potential.

USAID has taken a leadership position in expanding access to the Internet and application of the Internet to strengthening economic policies in Africa. While less prominent in other regions, there are individual USAID country programs which are utilizing the Internet in a significant way to support particular economic policies.

Within the larger donor community, the World Bank leads in examining the possibilities of using the Internet to accelerate economic and social development. Other multilaterals have devised Internet applications which help deliver their individual services, much of which directly or indirectly contributes to economic policy reform.

While there are some interesting examples in other U.S. Government agencies (particularly the National Telecommunications and Information Agency and U.S. Information Agency), by and large the rest of the federal government is not utilizing the Internet to engage developing countries in adopting liberalized economic policies.

Non government organizations offer varied approaches toward the Internet. Some look for every opportunity to expand Internet access for its own sake, believing strongly that connectivity is essential in a new global information age. Others link their institution's economic policy objectives with that of the Internet quite effectively.

Six Internet development applications help strengthen economic policies.

- 1. Economic Research and Analysis: Collection of current and reliable information is essential for sound economic policy analysis and formulation. The Internet has a wealth of information and analytical tools for sound economic research and analysis, an ability for professionals to dialogue and conduct joint research, and emerging technologies which allow for interactive database management. Training may be necessary to maximize use of the Internet as a research tool.
- 2. Public Transparency and Advocacy. Transparency is important for an informed public and advocacy is important to lobby for change. The Internet <u>may</u> be an effective tool for transparency and advocacy, depending on the audience given today's uneven Internet access. International financial, business and specialized non-governmental organizations have made very effective use of the Internet for transparency and advocacy. However, the Internet cannot reach large audiences in developing countries so other media may be more effective.
- 3. Professional Networking. Economic policy analysts and program managers need to exchange news and views, collaborate on joint projects, and stay current in this dynamic global economy. The Internet by its very nature is ideally suited for professional networking. However, much of the professional networking today is among the donors. Broadening will occur as access and training expands. Virtual conferences and Internet newsgroups offer other opportunities for networking but work best when structured.
- 4. Institutional Networking. Institutions need to remain as current on global economic conditions and thinking as do individuals. Economic policy institutions, be they business associations, think-tanks or universities, can grow stronger by having international partnerships. Institutional networking works best when organizations have a common agenda and mutual interest. In such circumstances the Internet is a great tool. When mutual interest is not present, the Internet can be as ineffective a tool as any other.
- 5. Distance Technical Assistance. Economic policy reform programs often require expensive, short-term technical assistance for very defined periods of time. The Internet can be a tool to deliver these services; on-line and on-time. The Internet can also provide greater access to leading luminaries who might otherwise decline assignments which require several weeks of undivided attention. Laying the groundwork and having local support is important to ensuring the effectiveness of this approach.

6. Distance Education. Education and training are often elements of successful economic policy programs. Indeed approximately 28% of all USAID training supports business and free market economics. Distance education offers an alternative to traditional classrooms; and can be cost-effective, reach more students, and be less disruptive to host country institutions. While Internet-based education is growing quickly in the United States, little has been reflected back in USAID's training programs. At the same time, the World Bank has had positive experience and is expanding such efforts.

Beyond these development applications, four other case studies were examined:

- 7. Access to and Mastery of the Internet. Benefits from Internet applications can't be realized if counterparts lack access or are unschooled in its use. In any case, the Internet remains a bumpy electronic frontier, even for proficient counterparts. There are three views towards Internet connectivity within the donor community: The true believers who spare no efforts to connect counterparts, those who try to marry development objectives with Internet connectivity, and those who basically ignore the Internet. Long-term economic policy objectives may be jeopardized without on-line connectivity.
- 8. Experimentation and Pilot Projects. As we enter a fundamentally new global information economy, traditional approaches to economic and social development need rethinking. Thus, a case can be made for pilot projects to test new approaches out. Several donors have launched programs which provide venture capital/pilot project funds to innovate on application of Internet technologies to development. Methodological problems arise, however, in measuring the impact of the Internet on development.
- 9. Regional Approaches. Several Internet programs examined follow regional approaches to economic growth. One focuses on extending Internet connectivity to the greatest degree possible, anywhere in the region. A second analyzes economic growth constraints, such as poor financial services, and devises Internet and other solutions, such as improved regional banking services. A third direction maximizes electronic linkages between regional economic institutions, from business groups to universities.
- 10. Internet Business Services as a Tool for Policy Reform. The number of independent attempts to use the Internet to facilitate international trade and investment is ample evidence of the importance of information in the emerging global economy. Business groups are among the Internet's most enthusiastic supporters for this reason. These business-oriented Internet programs also offer opportunities to influence economic policies, albeit indirectly. By permitting users to compare economic policies across national boundaries, the Internet's transparency can work as an agent of policy change.

The cost effectiveness of the Internet is almost universally accepted -- provided one is working in a competitive, private telecommunications market. Regrettably, in far too many USAID countries, the market is dominated by inefficient government monopolies.

In these circumstances, Internet costs are very high so cost-benefit analysis for Internet utilization may be necessary. In either case, over the long-run, host country counterparts and institutions will need to be "wired" if they are to succeed in the global economy.

The following are potential USAID approaches for utilizing the Internet to strengthen economic policies, as suggested by the survey and ten case studies. These are <u>tentative</u> conclusions and will be reassessed later on in this study.

- a. USAID development projects which seek to strengthen economic policy capacities should routinely address both Internet access and instruction as important elements in program design. USAID may wish to develop guidance on effectively using the Internet as a tool for economic research and analysis for its program managers.
- b. USAID might capitalize on the Internet's professional and institutional networking capabilities to cross fertilize common economic policy objectives across USAID country programs. Thus, if USAID is seeking to create bond markets in a number of countries, attempts should be made to electronically link the individual efforts and inject some structure so that mutual learning takes place.
- c. USAID should consider greater sharing of economic policy research. Papers produced by USAID staff, consultants and partners should regularly be posted on the Internet, and readers offered an opportunity to send questions and comments to the authors for an on-line dialogue. USAID might also want to consider more structured virtual conferences on important economic policy subjects.
- d. USAID should build in opportunities for expanding Internet access and training to recent alumni of USAID economic policy training programs. Likewise, new participants should routinely be exposed to training in the use of the Internet.
- e. A more deliberate use of Internet-based technical assistance should be built into USAID economic policy programs. This might make it possible to tap into intellectual and institutional resources which otherwise would be unavailable for USAID assignments. Virtual relationships should be encouraged, but thought also needs to be given to local support and accounting for results.
- f. Maximum use should be made of distance education. A thorough review should take place of the economic policy training programs that are classroom based now, and look at possibilities of offering some of these programs on-line. USAID might consider sharing costs of digitizing these programs with the host institutions, or promising a certain number of students for on-line training.
- g. USAID might wish to identify an economic policy constraint that Missions are identifying on either a regional or global basis. A task force of experts from both the

sector involved as well as the telecommunications industry might then develop an action plan for strengthening economic policies, which would include Internet interventions.

- h. Several on-line business facilitation services might be approached about their interest in working with USAID to introduce a capability for users to readily compare specific economic policies across borders. USAID could also pull this information out for policy makers to consider.
- i. USAID might wish to invite U.S. development partners to submit proposals for the application of Internet technologies to strengthen USAID's economic policy strategic objectives. Proposals would have to match Internet technologies with already articulated economic policy objectives. Such a partnership assumes cost-sharing during implementation among the development partners, USAID/Washington, and field missions.

- II. SCOPE OF STUDY AND DELIVERABLES. The objective of this study is to develop new approaches for USAID to promote economic reform in developing countries and transitional societies via use of the Internet. The approaches are to provide new, cost-effective models to accelerate economic growth, reduce poverty, and support sustainable development. As a result, USAID may initiate at least three potential applications of Internet-based electronic assistance in at least three USAID-assisted countries, including partners in the U.S. and host countries. The following tasks are required:
- 1. Prepare an inventory of Internet development uses by (a) the official donor community (primarily USAID and the World Bank, but also other donors and USG agencies); and (b) non governmental organizations (NGOs) that support economic policy reform.
- 2. Select from the inventory approximately ten Internet-based programs that have the most relevance, and provide an analysis of their usefulness, cost effectiveness, common attributes to success or failure, and potential usefulness as USAID models.
- 3. Identify and match a range of countries, sectors and policies with a range of potential American partner institutions where electronic assistance programs can make a significant contribution to economic policy reform over the next 3-5 years, by either building on or filling gaps in existing economic reform efforts.
- 4. Propose at least three detailed economic reform initiatives which could be conducted via the Internet, including countries, sectors, policies and American partner institutions.
- 5. Propose a detailed Internet-based economic reform program that could form the basis for a USAID solicitation involving electronically-based solutions to accelerate economic reform in emerging markets and transitional economies.

Travel to 2-3 USAID assisted programs is included to explore the potential for utilizing Internet-based programs to foster economic reform.

Three Deliverables are required:

- 1. An inventory of Internet development uses, including a detailed analysis of approximately ten Internet-based programs that are most relevant (Tasks 1 & 2).
- 2. (a) A matrix outlining countries, sectors, policies and American institutions where electronic assistance can make a significant contribution to economic policy reform; and (b) a detailed description of 3 economic reform initiatives which could be conducted via the Internet, including countries, sectors, policies and American partners. (Tasks 3 & 4).

3. A detailed description of an Internet-based economic reform program for the Center for Economic Growth. (Task 5).

This report responds to the first Deliverable.

- **III. STUDY METHODOLOGY.** This first Deliverable was carried out between July and mid- October, 1997. Information in this report was obtained by a combination of interviews and a review of literature -- both on line and in print. Specifically:
- a. All appropriate offices in USAID/Washington were contacted to learn how the Internet is presently being utilized to strengthen economic policy reform programs. Approximately 55 individual USAID officers were reached, by phone, email and/or in person.
- b. All USAID Missions were surveyed and asked about use of the Internet in their host countries, by their Mission, for economic growth programs, by other donors/NGOs, and for thoughts as to creative uses. Forty-four percent responded. Attachment B presents the actual questions asked as well the responses received.
- c. Ten donor agencies were examined: World Bank, International Finance Corporation, Multilateral Investment Guarantee Agency, International Monetary Fund, InterAmerican Development Bank, United Nations Development Program, United Nations Conference on Trade and Development, Canadian International Development Agency, and International Development Research Centre. The Consultative Group on International Agricultural Research is also discussed here. Attempts to reach the Japanese aid agencies and International Food and Agricultural Development (IFAD) were unsuccessful.
- d. Nine other United States Government agencies were contacted: U.S. Department of Treasury, U.S. Department of Agriculture, U.S. Department of Commerce, U.S. Information Agency, U.S. Trade Representative, U.S. Trade Development Agency, Securities and Exchange Commission, National Telecommunications and Information Agency, and Internal Revenue Service.
- e. Twenty-three non-governmental organizations (NGOs) were surveyed. They represented universities, private think tanks, industry associations, regional non-profit organizations, major foundations, and development contractors.

The study has benefited from two recent conferences which were particularly germane:

- a. The Knowledge for Development in the Information Age, Global Knowledge (GK) '97 Conference. Held in Toronto in June and co-hosted by the World Bank and Government of Canada, this conference was part of an ongoing global dialogue on how to harness knowledge and information as tools of sustainable and equitable development.
- b. The Secretary of State's Open Forum Conferences on "Reinventing Diplomacy and Development for an On-Line World", which held five conferences between March

and July, 1997, to stimulate discussion on how the global information revolution will have an impact on United States foreign affairs agencies as well as international organizations.

- **IV. DEFINITION OF TERMS**. This report begins with definitions of (a) the Internet and the technologies that are most relevant to the development community; (b) the development applications inherent in these technologies that are most useful for economic policy assistance programs; and (c) the range of economic policy activities considered in this study.
- **A.** The Internet and its Technologies.¹ The Internet is a vast global, decentralized, web-like network of computer networks which are able to communicate with one another through a unifying series of protocols. The Internet began in 1969 with funding by the Advanced Research Projects Agency to establish an experimental network to connect researchers in the United States. As this network grew, many other networks (e.g. Fidonet and UUCP) were also forming into a loose confederation which became the Internet. Today, the Internet is growing 60 to 100 percent a year, the number of world wide web hosts has reached 16 million, and 100 million computers are projected to be networked on the Internet by the year 2000.²

There are a number of Internet technologies which are particularly useful for those engaged in international development. They can become tools in the hands of professionals attempting to achieve economic growth objectives. These technologies can be categorized in the following ways.

Internet Technologies

| | | technologies | Electronic Mail: This is the most basic and |
|------------------|--|-----------------------|---|
| IRC telephony | video conferencing | otl emerging | ner |
| telnet | FTP | Gopher WWW Lynx | |
| Email | mailing lists listserves bulletin boards | newsgroups | |

commonly used Internet tool. It allows fast and inexpensive communications across great distances. The asynchronous nature of email allows two or more individuals

This material is largely taken from "Internet Tool Kit for Task Managers", May 1996; published on the World Bank's Technet Internet web pages (http://www.worldbank.org/html/fpd/toolkit/)

Figures presented by George Sadowsky, Vice President for Education at the Internet Society and Director of the Academic Computing Facility at New York University, at the Secretary of State's Open Forum entitled "Reinventing Diplomacy and Development for an On-Line World", March-July, 1997.

to leave messages for each other without being simultaneously connected is appreciated by those engaged internationally who traditionally had to contend with time zone differences when using the phone.

Mailing Lists, Listserves, and Bulletin Boards. All three allow communities of interest to communicate with one another. Mailing lists are simple distribution lists of email addresses for individuals or organizations, and permit a single information source to reach many others quickly, easily, and inexpensively. Listserves are a variation in which special-interest mailing lists are automatically managed by a server program. With a listserve and normal email, an individual can add or remove oneself from the list, and can reach an entire audience by mailing to just a single address. Listserves can be "moderated" with someone controlling membership as well as the acceptability and distribution of messages. Likewise, listserves can be "unmoderated", fully automated and unrestricted. Bulletin boards are host computer systems that allow a user to connect, browse through notices and documents, and download and upload files. They offer greater flexibility since users can browse at will, rather than receiving messages directly.

<u>Newsgroups</u>. Usenet Newsgroups are special interest bulletin boards which users can browse, and which allows users to post messages such as questions or comments, and to post documents. They have become a very popular networking tool with literally thousands of communities of interest networking through the Internet. Newsgroups essentially use email technology so allow participation even in areas with lesser levels of Internet connectivity.

<u>Telnet</u>. Telnet allows a user on one Internet host computer to log-on to another host. It allows a traveler to access his/her email when far from home and office. It is also used to connect to thousands of information servers, such as library catalogues and bulletin board systems that allow either open (anonymous) or limited (password-protected) access.

<u>FTP - File Transfer Protocol.</u> FTP allows a user on one Internet host computer to move files to or from another host computer. Data, reports, and software can be exchanged across long distances instantaneously with File Transfer Protocol. Users can find files from thousands of universities, companies, organizations and individuals who maintain public (anonymous) FTP sites.

Gopher/World Wide Web (WWW)/Lynx. These are tools for browsing material on the Internet. Gopher was the earlier version and radically changed the Internet by making material more accessible. However, its importance is declining as the World Wide Web system grows. The World Wide Web incorporates text, graphics, images, sound, video, and animation into rich, user-friendly presentations. "Navigation"

between pages is made easier by increasingly more powerful tools, made necessary as hundreds of thousands of "home pages" are placed on the World Wide Web. However, there is a "price" to pay for this richness in the need for more powerful computers, faster modems and more reliable and higher quality phone lines -- often absent in the developing world. Yet fortunately, a web browser technology known as Lynx can transmit text-only files from the WWW, thereby allowing lower cost, slower connections to benefit from the wealth of material on the Internet. Lynx allows users in developing countries, who might have less powerful computers and lower bandwidth connectivity to access the same information sources that more technologically advanced users in the industrial world have, absent of course the graphics, images and sounds which make the WWW such an attractive medium.

IRC and Telephony. These tools/technologies allow real time, live communications between people. IRC, or Internet Relay Chat, allows parties who are logged in at the same time to carry on a conversation by typing comments to one another. A newer application is telephony, allowing users to transmit live sounds to each other via the Internet, in effect allowing for a phone call. However, it requires more advanced computers and special peripherals (e.g. microphones, speakers and sound boards) and significantly greater bandwidth.

<u>VideoConferencing.</u> Using a digital video camera and microphone on the users desktops, live pictures and sound are transmitted over the Internet to allow face-to-face communications over what could be thousand and thousands of distant miles. However, ever more advanced computer technology is required, as is greater bandwidth.

Other Emerging Technologies. The digital age has demonstrated how quickly computing powers and telecommunications technologies are advancing. The one certainty is that new technologies will emerge in a constant stream, some catching on and becoming standards, while others fail. The convergence of the Internet with television may be on the horizon, and "push" technologies may allow the Internet to behave more like broadcast television than its present form. In any case, it is safe to assume for the purposes of this study that (a) the Internet, which in many ways still has characteristics of an electronic frontier, will become more accessible and user friendly to less technologically oriented users; (b) the technologies and services on the Internet will grow, as will the reliability of such services; and (c) costs will continue to fall, as long as the competitive markets continue to operate. These conditions will also prevail in emerging markets and transitional societies, as long as they establish and maintain deregulated and competitive telecommunications markets.

B. Development Applications. The Internet has shown itself to be an extremely effective communications tool, allowing for greater efficiencies within organizations, and greater outreach to the public. Almost all of the development projects surveyed in this report cited the great importance of the Internet in allowing project teams to communicate and pass reports/files to each other, to USAID officials, and to their own home offices. Many also cited the ability of the Internet to present their programs to the general public in both the United States and foreign countries for public relations purposes.

While these are both legitimate and valuable services, this study has not examined these applications of Internet technologies since they are not unique to strengthening economic policies in host countries. Rather, development applications of the Internet shown in the table below are felt to be the most important Internet tools for strengthening economic policies in emerging markets and transitional societies. The reasons why and how these applications are so important as development tools are also described below.

Internet Development Applications

| Economic Research & Analysis | Public Transparency/Advocacy |
|--------------------------------------|------------------------------|
| Professional Networking | Institutional Networking |
| Distance Technical Assistance | Distance Education |

Economic Research & Analysis. Why? Good economic policies require sound research and the latest and best available information to make the soundest decisions. The Internet can be a tool to obtain this information, the richness of which grows as more institutions post their data for a global audience.

Resources for Economists on the Internet³

US Macro and Regional Data
Other US Data
World and Non US Data
Finance and Financial Markets
Economic Consulting and Forecasting Services
Working Papers
Bibliographical Databases and Information
WorkingPaper, Publication & Report Notification Services
Information about Conferences

"Resources for Economists on the Internet" by Bill Goffe, Dept of Economics and Intl Business, University of Southern Mississippi; at http://econwpa.wustl.edu/EconFAQ/EconFAQ.html

Economics Journals on the Internet
On-Line Journals
Journal Data and Program Archives
Academic Publishers
Electronic Newsletters
Electronic Newspapers and other News Media
Economic Societies and Associations
Academic Research Organizations and Institutes
Non-Academic Research and Policy Organizations
Single Subject Economic Sites
Multiple Subject Economic Sites
Directories to Universities, Business Schools,
Economics Departments and Economists

How? While the Internet is rich in such information, obtaining and analyzing this information is not trivial. Search engines such as Netscape, Yahoo!, Excite and others can identify literally thousands of pages of materials on a particular subject. Some individuals and institutions attempt to assist users, such as the accompanying guide to resources for economists from the University of Southern Mississippi. This Internet guide has well over 400 links to other web sites within the categories shown in the insert.

The Internet is an open system, with no hierarchy, allowing both excellent data and information to reside side by side in cyberspace with highly suspect data and analysis. Many projects and organizations have therefore established training programs to assist users most effectively utilize the Internet as a tool for research.

The National Telecommunications and Information Agency represents the U.S. in the Asian Pacific Economic Community. The NTIA effectively utilizes the Internet to display and compare telecommunications policies across nations, for private investors, concerned APEC citizens and policy makers. This transparency and comparability results in more liberalized and competitive telecommunications policies in the Asian-Pacific region.

<u>Public Transparency and Advocacy.</u> Why? Strengthening economic policies often requires both public transparency and advocacy. Transparency allows for an informed public to understand their own economic policies and to compare those policies with other nations. Public advocacy allows for interest groups to affect governmental decisions. The Internet is an excellent tool on both counts -- provided access to the Internet is sufficiently widespread. However, the importance of the degree of accessibility is directly related to the economic policies in need of strengthening. For example, a limited Internet service which allows the banking community to go on-line might be sufficient

for obtaining transparency and advocacy with respect to banking regulations. Broader Internet access might be required to strengthen economic policies in other areas which directly impact on a larger community, such as the pricing of electricity or water.

How? The Internet allows one to display economic policies and to compare such policies with competing nations. The Internet also allows special interest groups to organize their campaigns for economic policy reforms, and to reach broader and more diverse audiences. Examples in this study range from special interest groups seeking to reduce corrupt practices to groups seeking to improve the implementation of international agricultural and trade agreements.

<u>Professional Networking.</u> Why? The ability for like-minded professionals to communicate and work together is an important aspect of strengthening economic policies. This is particularly critical when economic policy analysts are working in isolated countries and lack daily exposure to the latest thinking and world economic data. Macro-economic policy analysts, financial market managers, agricultural economists, industrial policy makers and others need to have a continuing relationship with peers from around the world to stay current and understand constantly changing world trends. So do business managers.

Some of this professional networking takes place in an informal fashion. However, the Internet can also hold open "virtual conferences", thereby substituting for more expensive and exclusive physical meetings.

How? The Internet has numerous tools for professional networking. The mailing lists, listserves, bulletin boards and newsgroups all allow for continuing education and professional networking. And obviously, the ease and speed of electronic mail and the ability to transmit documents and reports both allow for a continuous professional relationship. Among the professional groups that use the Internet are the American Economics Association, the American Agricultural Economics Association, and the National Association for Business Economics.

The International Center for Economic Growth was established for professional collaboration among the best international economic research think tanks. The Center now intends to establish electronic linkages with its institutional collaborators. In their words: "We are in the process of setting up a home page which will include information...on our member institutes around the world, as well as information on our publications, research projects and other activities. This will enable people to identify which institutes in what part of the world are working on issues of particular interest to them... and be able to get in contact with them. Our ultimate goal is to have the best of the local studies accessible through the Internet so that people looking for reform experiences can have easy access to them."

Institutional Networking. Why? Just as

trained on how best to utilize the Internet to maintain new professional relationships abreast of the latest developments.

professionals need to remain current in their chosen fields to analyze and formulate appropriate with their peers and professors, and to stay policies, so do institutions, ranging from economic research institutes, to business associations. financial institutions. industrial and trade associations, and institutions of higher learning.

How? The same tools which work well for professional networking, also facilitate institutional networking. And over time, as telephony, videoconferencing and new Internet-based technologies become more common, they will allow for an even richer ability to network -- both professionally and institutionally.

Distance Technical Assistance: Why? The traditional approach of the donor community to strengthening economic policies has been to provide on-site technical assistance, and off-site training (see below). The utilization of high quality, short-term technical assistance is particularly expensive, when one factors in the costs associated with travel and per diem and time lost in transit. Furthermore, time delays are common as the host country recipient organization waits for the consultant to fit the travel within other commitments and within the logistical limitations associated with fixed airline schedules. However, the use of the Internet to communicate and transmit reports and files instantaneously provides an alternative means to provide technical assistance.

The International Tax and Investment Center provides specialized assistance to the former Soviet Union to formulate tax and investment codes. The Center has set up a low-cost operation which includes offices in key host countries, but which are staffed by local professionals. All technical assistance comes through the Internet in the form of highly specialized consultants working on tax codes, investment codes for petroleum investments and similar commercial rules from schools such as Stanford University.

Electronic mail and the ability to jointly work on reports and files via the Internet permit the time and costs of consultants to be used more sparingly. During the study, numerous examples were found whereby experts who provide short-term consultant services over an extended period of time are able to complete certain assignments from home offices, over the Internet. Yet, there were also examples in which organizations set up operations such that the bulk of consultancy services were provided on-line.

<u>Distance Education.</u> Why? Long- and short-term training have always been staples of economic policy reform programs. USAID and other donors have financed off-site training, ranging from long-term, university graduate degree programs in economics; short- term training in courses ranging from telecommunications deregulation, to intellectual property rights, to banking; and even training targeted on a particular project in a particular country. In 1995, 4,934 individuals or 28% of all USAID participants studied business/free market economics.⁴ Distance education was normally reserved for development programs trying to reach large audiences in geographically dispersed populations, such as training of farmers over the radio, but was and is largely not used to reach economic policy makers and managers in complex subjects such as those listed above. Yet, the growth of the Internet now permits donors to think more creatively about the medium of training.

[&]quot;International Exchange and Training Activities of the U.S. Government", 1995 Annual Report; Compiled by the U.S. Information Agency

The World Bank's Economic Develop-ment Institute is leading efforts to introduce Internet and other distance based education into their programs. They are presently helping Moscow State University introduce market-led economics into its curriculum by introducing a Russian language web site with case studies demonstrating principles and practices of a market economy. Professors use them to teach and cases are updated twice yearly.

How? American educational institutions are

rapidly taking advantage of this technological revolution. Four years ago, <u>Peterson's College Guide</u> listed 93 "cyberschools". The 1997 <u>Distance Learning Guide</u> includes 762. InterEd, an Arizona-based higher education research firm, estimates that 55% of the 2,215 four year colleges and universities in the United States have courses available off-site. Over 1 million students are now plugged into virtual classes (compared to 13 million attending physical facilities). The number of American cyberstudents are expected to triple by the year 2000!⁵

C. Economic Policies. As noted above, this study examines how the Internet can strengthen economic policies in developing countries and transitional societies. These include measures which strengthen agriculture, industry, service (including telecommunications), finance, trade and investment, fiscal, monetary and other policies to accelerate economic growth and thereby sustain economic and social development. Activities ranging from privatizing state-owned enterprises to revising commercial laws and improving economic think tanks and business associations all are considered herein.

[&]quot;I got my degree through E-mail", Lisa Bugernick and Ashlea Ebeling, Forbes, June 16, 1977.

The United Nations Conference on Trade and Development has a global program called TradePoints which now exist in more than 120 countries. Each virtual trade point electronically connects key public and private participants through a: (a) center for providing advice/service (e.g. customs, banking, insurance); (b) source of pre-transaction trade-related information (e.g. market opportunities); and (c) gateway for global networking. While designed to provide information to facilitate international trade, Trade Points has forced positive economic reforms in Senegal.

The study does not examine Internet-based

programs whose primary purpose is to provide general business and commercial information, market conditions and prices, matchmaking for trading and investing, electronic commerce and other business services which in fact contribute to economic growth; <u>unless</u> these Internet programs also serve to improve economic policies in participating countries. In fact, we came across such examples in this study. One of these is examined as a case study later on.

The other point which should be made is that while the Internet is being viewed as a tool for strengthening economic policies in the developing world, the sheer power of the Internet to access and compare information across borders argues that the mere presence of competitively priced Internet services will force positive economic policy changes. As expressed in a recent analysis of the relationships between international affairs and revolutionary information and communications technologies⁶: "Globalization of the economy has put a premium on information flows at the same time technological advancements in telecommunications have increased the potential of information flows to affect societies and governments. The dictator may be stuck with a stark choice between securing the benefits of either the invisible hand or the iron fist --market success or social control. The mutual exclusivity of the options seems to pivot on information and communication media."

V. INTERNET AROUND THE USAID WORLD. As noted earlier, the Internet has grown at phenomenal speed. The following map shows Internet connectivity around the world as of June, 1997. Some have called it mankind's single largest infrastructure investment. Yet its decentralized nature has permitted incremental investments by many thousands of individuals and organizations.

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[&]quot;Dictator's Dilemma" by Christopher R. Kedzie, for RAND, April, 1996.

Despite the Internet's growth, access is an issue. Using phone lines as a proxy indicator as to the distribution of telecommunications around the globe, we find that OECD countries have an average of 50 lines per 100 citizens; developing countries on average have 3.6 lines per 100 residents, and Africa has .5 lines/100 citizens. Furthermore, only one out of ten people in the world has a phone line, and less than 1/2 have ever placed a call.

Internet Access and Use in USAID Countries

82% have international connectivity

77% use Internet applications

88% see growth Internet development uses in their host country

Utilizing information provided by the Computer Sciences Department at the University of Wisconsin in Madison⁷, we analyzed the degree to which USAID countries are connected to the Internet. Three indicators of international connectivity were: (a) IP Internet, operational and accessible from the entire open IP Internet; (b) UUCP, entities with domestic UUCP sites which are connected to the Global Multiprotocol Open Internet; and (c) Fidonet, entities with domestic Fidonet sites which are connected to the Global Multiprotocol Open Internet. Essentially the last two indicators allow email use only. This database, current as of June, 1997, shows that 82% of USAID countries have full Internet connectivity.

A word of caution is warranted. Although the great majority of USAID countries technically have full Internet connectivity, real access might be limited by high prices, few phone lines, or government censorship. Furthermore, the quality and reliability of telephone service may be wanting, thereby also limiting the use of the Internet. Many of these technical and economic problems are due to government maintaining a monopoly on telephone and Internet service, and thus could be alleviated by establishing a private, deregulated, and competitive market for telecommunication services, including the entry of private Internet service providers.

VI. USAID INTERNET USE TO STRENGTHEN ECONOMIC POLICIES.

A background paper⁸ and USAID's own telecommunications policy⁹ affirm the importance of telecommunications to economic growth and other USAID development objectives. However, USAID has faced severe budget and manpower constraints and a desire to focus its program within already defined strategic objectives. Therefore, there has not been any momentum to take a leadership role in the global development community on the utilization of information and communications technologies (and specifically the Internet) to strengthen economic and social development (and specifically economic policy) programs.

The one notable exception is USAID's leadership in improving Internet access and development applications in Africa, primarily through the Leland Initiative. At the same time, while USAID has not had a deliberate strategy, there have been a number of examples of USAID country programs and USAID development partners (contractors and grantees) which have become champions on the utilization of Internet technologies to strengthen economic growth. Another exception has been the leadership exerted by USAID in the recent Open Forum series which examined the implications of new information and communications technologies on the broader foreign affairs landscape.

"Telecommunications in Sustainable Development: A USAID Backgrounder", by John Coakley, Kathleeen Horkan and Jeff Bland, April 1995

Found on the World Wide Web at http://www.isoc.org/infosvc/table.txt

USAID Policy Determination 22: Telecommunications, Information and the Global Information Infrastructure

As part of this study, a survey was sent to all USAID Missions to better understand Internet usage. Of the 44% of the Missions that responded, 76% reported utilization of the Internet for development objectives, 50% use the Internet to strengthen economic policy programs, and 88% see growth in the use of the Internet for development in their host countries.

USAID Administrator Atwood offered several challenges at the first session: "We must provide people the know-how they will need to build, operate and make use of the Global Information Infrastructure. We must encourage and provide technical help, to extend the benefits of policy and regulatory reforms which will enable the private sector to build the needed infrastructure. Working closely with potential users, we must continue to develop innovative applications that take advantage of this infrastructure's ability to expand services and opportunities-- and to expand people's horizons."

A. The Secretary of State's Open Forum

Conference on "Reinventing Diplomacy and Development for an On-Line World" covered a wide range of topics from telecommunications reform, to the use of information technology to "reengineer" development and diplomatic efforts, and electronic commerce. Participants included the diplomatic corps, regional and bilateral business councils, trade associations, think tanks and international organizations.

While the sessions did not focus on programs which strengthened economic policies, a World Bank speaker mentioned plans for on-line economic analysis in Africa and a representative of the American Embassy in Moscow spoke of efforts to coordinate donor activities in the Russia using the Internet.

B. Africa. The Leland Initiative (Africa Global Information Infrastructure Gateway Project) was started in 1995 as an interagency, US government program (led by USAID) to introduce or expand the use of the Internet in 20 African countries. Three principles are incorporated into the Initiative: affordable pricing, open access to information on the Internet, and private sector distribution of Internet service at the retail level. While the Leland Initiative encourages participating countries to reform telecommunication policies to ensure that these principles are satisfied, Leland itself does not specifically seek to use the newly-acquired Internet access to strengthen economic policies. However, the program is very concerned with the development applications of the Internet and has been studying use of the Internet to strengthen USAID's development programs in these countries.

This study has reviewed seven end-user application country studies and identified three Leland countries where Internet connectivity has the potential to strengthen economic policies. These include assisting: (a) the Ethiopian Investment Authority and Ministry of Trade to go on-line; (b) the Mali chapter of the West African Enterprise Network (WAEN) to electronically connect with the larger WAEN; and (c) the Ghanaian Export Promotion Centre, West African Enterprise Network, and Investment Promotion Centre improve their ability to reach beyond their borders. It is also interesting to note that the Leland program managers are finding that business associations are the most enthusiastic users of the Internet because they see immediate payoff in terms of making their firms more competitive in the new global information age.

Networking African Economic Researchers. The Africa Bureau is strengthening economic policies in Africa by building research networks, not undertaking direct policy work. Attention is on academicians, the purpose being to strengthen policy relevant research. These networks include the African Economic Research Consortium in Kenya and the African Capacity Building Foundation in Southern Africa. There are also various industrial policy networks, such as RESAU and PTCI in West Africa. USAID (and other donors) are connecting these professional networks with the Internet. Furthermore, the African Leadership Network may electronically link Executive Offices of the Presidencies using Internet technologies and conferencing software next year.

TRADENET is an electronic communications network set up by the Africa Bureau to enhance information exchange and collaboration among African researchers in Eastern and Southern Africa. TRADENET is intended to strengthen African capacity to address food security and cross-border agricultural trade issues by providing a means for African researchers, policy-makers and USAID to work together. The network connects the majority of Eastern and Southern African countries to each other and to Washington. It's technical underpinning are from the Southern Africa Food Information Resources and Exchange Network, established in southern African to enhance donor countries' response to the 1992 drought. Users of TRADENET are able to send and receive messages among individuals and institutions who are simultaneously working on similar topics. In this way, exchange of working papers, analyses and databases take place electronically. A central repository of documents and data are maintained that are accessible to all TRADENET participants. As Internet service expands and improves in these regions, electronic communications are increasingly through the Internet.

Networking Africa's Business Communities. The Eastern and Southern African Business Organization (ESABO) is a private-sector funded confederation of African business associations which represent 24 countries in East and Southern Africa, including all national members of Southern Africa Development Community and the Common Market for Eastern and Southern Africa. ESABO promotes cross-border business transactions among the African private sector in these 24 countries by providing timely

Internet-based market information and matchmaking services and by lobbying for economic policies favorable to its members. Its policy successes to date include: (a) slashing tariffs by up to 80% in ten member countries; (b) developing a key role for the private sector in meeting the challenge of food security; and (c) forming national forums for policy discussions between Government and business communities in Kenya and Uganda.

USAID is also supporting the development of the All-Africa Businesswomen's Association; a private, non-governmental organization that seeks to enhance opportunities and cooperation among African businesswomen. AABANET, the Association's Internet website, was just unveiled, with USAID's assistance. It is expected that this website will allow African businesswomen to obtain on-line marketing information and will allow them to reach hundreds of thousands of businesses, institutions, government agencies, and individuals.

On the other side of the African continent is the West African Entrepreneur's Network. WAEN is a regional organization of over 300 businessmen/women from eleven counties in the ECOWAS region. WAEN hosts quarterly meetings in capital cities to promote active dialogue on policy reform, cross border trade and investment in the region. Regional headquarters are in Accra and each country has a national coordinator. WAEN hopes to expand its Internet access to country level enterprise offices throughout West Africa and that this tool will allow WAEN to be much more effective in its trade information services and policy discussions.

Aside from these region-wide networking initiatives, there are two USAID Missions in Africa which are particularly active in using the Internet for economic growth and policy reform efforts.

A consultant on a USAID project visited Madagascar on an assignment. By chance, officials at the Ministry of Finance were examining how they price the sale of government bonds at periodic auctions. The consultant was able to identify a professional association in the Untied States on the World Wide Web which establishes such pricing formulas. Within hours, this information was provided to the Malagasy Ministry of Finance and the new pricing policies affected at the next auction.

Ghana has numerous examples of

extending Internet usage to development partners: AfricaLink to scientists and policy makers in agriculture, environment and natural resource management; West Africa Enterprise Network (business and trade data), Ghana Association of Women Entrepreneurs

(business and trade data, and marketing), University of Ghana, Private Enterprise Foundation, Ghana Investment Promotion Center, Ghana Export Promotion, Federation of Associations of Ghanaian Exporters, and Ghanaian Ministry of Trade and Industry. With respect to economic reform, USAID's new Trade and Investment Reform Project is just beginning and seeks greater government and private sector cooperation in economic reform efforts. Furthermore, the Ghanaian Institute for Economic Affairs may foster partnerships for economic reform and economic growth through use of the Internet to link parliamentarians, non-governmental organizations and private sector experts.

South Africa is the second active Internet country in Africa. Political parties use the Internet to distribute policy papers and discussion pieces. South Africa's research community, both private and public, uses the Internet to exchange ideas. The South African Network for Economic Research is establishing a website to support its economic research. The USAID Mission uses email, has its own webpage, projects have webpages, listservers and discussion groups. Discussion is occurring on using the Internet for distance education. The Africa Bureau's EAGER Project (economic research) is active in South Africa and uses the Internet for communication and sharing research. NGOs do the same through SangoNet, a South African NGO network.

C. Asia/Near East. While the Africa Bureau is engaged on a region-wide basis to introduce the Internet and to apply those technologies to strengthen development programs including economic policies, no such parallel effort exists in the Asia/Near East Bureau. In this region, survey responses were received from Bangladesh, India, Indonesia, Nepal, the Philippines, Sri Lanka, Morocco and West Bank/Gaza. It appears as if the Philippines, Sri Lanka and to some extent Indonesia and Morocco employ Internet technologies in their economic policy programs. India makes use of the Internet to strengthen business development programs, but not for economic policy activities.

Philippines: The Mission had USAID's first website. The economic growth portfolio uses the Internet extensively. Examples are in capital markets development, trade and investment information systems, dissemination of statistics to the public, linking revenue information systems, government credit policy reform, taxpayer information systems, telecommunications and government securities trading. The Philippines can create sophisticated web pages but this takes too much time to download, and there is the question of sustainability. Several suggestions for creative use of the Internet were offered including cost effective ways of making market information available to small businesses, improving public awareness of major policy issues, providing background information and key data to policy makers, increasing computer literacy among youth and in rural areas, and promoting economic literacy.

Sri Lanka: USAID has been engaged in Internet development ever since Vice President Gore signed an agreement with the Government of Sri Lanka in 1993 to assist

with its development. After successfully steering that country to following a policy of private and competitive Internet markets, the Mission used the Internet to support a variety of programs. Examples of using Internet to support economic growth and reform are those of the Colombo Stock Exchange, the Central Bank of Sri Lanka, the Board of Investment, and the Public Enterprise Reform Commission. These web sites provide information on private listed companies, investment opportunities, incentives and policies, macroeconomic and financial sector policies and trends, and information on the government's privatization efforts. USAID is now developing its own web site as part of the Embassy site along with the US Information Service. Two projects are also using the Internet to access new technologies and learn of market and business partnerships.

Indonesia and Morocco. Internet service is expanding rapidly and has a promising future in Indonesia. The Economic Law and Improved Procurement Systems Project has just started using electronic bulletin boards at the Ministry of Justice's National Law Development Center. Users are mainly the government, the issue being the demand for legal information in Indonesia right now. The Mission anticipates utilizing the Internet in its Partnerships in Economic Growth program, hoping to make the public debate and discussion on economic policy reform more open; and helping potential partners provide low-cost and easy-to-maintain technology for dissemination of information.

Although application of the Internet is still in its early stages in Morocco, a number of private Internet providers have been offering services, the popularity of email is growing, and some organizations are establishing web sites. The Ministry of Privatization has created its own home page to provide information on its programs, and the Ministry of Commerce and Industry has done the same. The Mission uses email extensively to communicate with its contractor staff and contractors conduct research on the Internet, such as comparing micro credit laws in other countries. USAID is helping the Ministry of Agriculture set up an agribusiness investment web site and link its offices together through the Internet. USAID is also helping Morocco's export authority with a database management system and electronic links to important data sources.

D. Eastern Europe and Newly Independent States. USAID/Russia stands out in terms of the scope with which Internet technologies are used to strengthen economic policies. USAIDs in Bulgaria, Hungary, Lithuania, Kazakstan and Armenia, however, have discrete activities where the Internet has strengthened economic policy programs.

Russia. The Internet is used extensively by Russia's economic leadership and utilization should grow in the next five years as telephone infrastructure improves. As one example, the Soros Foundation hopes to link 32 Russian universities to full world wide web access and thereby expose the next generation to the power of interactive telecommunications. Russia has thousand of email addresses and approximately 650 web

sites are known of. Almost all USAID program implementers rely on the Internet for communications.

USAID/Moscow has a number of programs which seek to strengthen the private sector environment in Russia, among which are (a) Business Collaboration Centers with its Internetwork for electronic information exchanges (databases, event calendars, technical assistance yellow pages, job listings, monthly newsletters, product information, list serves, partner home pages); (b) Junior Achievement International activities which support market economy training of high school children at 29 regional centers which USAID linked to the Internet; and (c) Eurasia Foundation grants for development of local information centers using Internet to access information about business management technologies, potential investors, suppliers, customers and partners.

With respect to economic research, the Russian Longitudinal Monitoring Survey, a joint Russian-American project funded by USAID, has created a large database on a web site to analyze economic growth issues at the household level. Not only are the results of each survey round available, but the raw data are as well. Researchers can not only read about economic growth, but also can do their own analyses. Using email and occasional visits, USAID is training a core group of Russian researchers on how to use the Internet and data in their own regions. Analysis already performed has been used in both the executive and legislative branches at the federal level in discussions about economic reform. This web site promotes transparency by making all tools used in analysis available to anyone who can access the Internet, and thereby foster critical analysis. The Eurasia Foundation also funds an economic research center which provides small grants to researchers interested in doing primary research on economic growth issues, which also uses the Internet.

Bulgaria. Among government agencies, the Internet is increasingly used for daily communications and for information dissemination. For example, the Privatization and Foreign Investment Agencies have web pages. USAID uses the Internet primarily for email and secondarily for home pages, which are used by several projects. Internet support for small/medium enterprises increases economic growth through the seven member organizations in the Firm Level Assistance Group (FLAG) Project; all have web pages connected with USAID. Bulgaria's Central Securities Depository will use similar technologies once hardware and software are in place. USAID/Bulgaria is working with a group of NGO partners to establish a USAID "Synergynet" which will link all programs to an overall USAID home page. There is the hope that this will improve cross sector coordination and cooperation.

Hungary, Lithuania, and Kazakstan. The Internet is used widely throughout Hungary. The proceedings of a recent small-medium enterprise conference, attended by high-level policy makers, were disseminated over the Internet to nine country small

business communities. The Mission uses Internet for email communications, long distance technical assistance, and web page information sharing. In agribusiness, the Internet provides information on prices and markets.

There are several hundred web sites in Lithuania, including Parliament, brokerage firms, and the central bank. USAID has its own web site, and all advisors use email. Only one project (capital markets) has a web site. Intermittent advisors keep advising long distance, but there is no long distance education.

Kazakstan is the only country in Central Asia which presently has Internet access. USAID/Central Asia is now developing its own home page and intranet. The Mass Privatization Project has a home page which provides access to company information on privatization; information on Kazakstan's securities market; access to information on all joint stock companies; upcoming sales of firms to be privatized; and a legal database on privatization, securities, and general commercial law. The Global Training for Development has a home page with WWW access. USAID-supported legal resource centers are open in three Central Asian republics and they have email.

USAID financed the establishment of an Internet backbone within Costa Rica in the early 1990s. While financed to provide interconnectivity and state of the art communications between scientists at major universities, research labs and private industry, it did demonstrate USAID leadership at an early stage.

E. Latin America and the Caribbean (LAC). While

there is much information technology and Internet activity taking place in the region, other donors and non profit organizations seem to be taking the lead today. At the same time, of the seven USAID LAC missions which responded to the survey, two reported some activities whereby Internet technologies were strengthening economic policy programs.

In the case of **Honduras**, the overall use of the Internet among country leaders is low, but is rapidly gaining momentum, especially among the business community who readily sees the value of the Internet. Three USAID agricultural projects use the Internet to get up-to-date international market prices to help producers make the best possible planting and marketing decisions. Two economic policy institutions are working with USAID to develop home pages; one a government policy and analysis agency and the other a private organization that serves the Honduran private sector and represents them with the Government and international donors.

Guatemala, a regional mission, is using the Internet to help an autonomous regional economic organization improve its management of information.

F. Global Bureau. The Center for Economic Growth funds a number of economic policy projects where the implementing partners utilize Internet technologies. These are discussed in later sections addressing other donors (International Food Policy Research Institute), other U.S. government agencies (Securities and Exchange Commission), and NGOs/Contractors (Harvard Institute for International Development, Institutional Reform and the Informal Sector and Robert R. Nathan Associates) activities. However, innovative work on using distance learning are discussed here, and expanded upon as a case study.

The Center for Economic Growth is in the process of developing two Internet based distance education programs: The first is a microfinance training course for USAID and other development specialists; and the second is a customized country specific (Russia) course addressing skills and knowledge development in risk management employing an interactive, multi-media computer based training program. As far as this study could ascertain, these are the first efforts by USAID to develop economic policy related distance education programs which could be delivered over the Internet. In fact, considerable time was devoted to identifying examples whereby USAID's participant training program utilized Internet-based distance education. None were found. However, some pilot activities are underway to deliver training to USAID employees using electronic distance education, which could utilize the Internet. These include preparing a multimedia CD-ROM for the Development Studies Program, and preparing six short courses for USAID staff on such topics as contracting and procurement to assist with certification requirements of a geographically-dispersed staff.

- VI. OTHER DONOR COMMUNITY INTERNET USE TO STRENGTHEN ECONOMIC POLICIES. As was the case with USAID, the use of Internet technologies is generally decentralized in donor agencies. Interviews with donor officials confirmed that donors do not know the totality of where and how the Internet is used among their global and country programs. Yet, a number of donors had centrally- managed telecommunication programs, which included Internet applications to support economic policy programs. This study also includes a few Internet-based donor programs which may have an indirect impact on strengthening economic policies.
- **A.** Global Knowledge (GK) 97. As a beginning point in the discussion of donor utilization of Internet technologies, it is worth reviewing the recent Knowledge for Development in the Information Age Conference, held June 22-25, 1997 in Toronto, and co-hosted by the World Bank and Government of Canada (the U.S. Government was a sponsor). Analogous to the recent Open Forum meetings, Global Knowledge '97 focused on the challenges facing developing countries, and the international community, at the

dawn of the information age. Three core themes were articulated: (a) understanding the role of knowledge and information in economic and social development, and the changes in the development process brought by new technologies; (b) sharing strategies, experiences and tools in harnessing knowledge for development; and (c) building new partnerships that empower the poor with information and knowledge, foster international dialogue on development, and strengthen the knowledge and information resources of developing countries. Six development challenges were explored: (a) empowering the poor with information and knowledge; (b) policy and regulatory frameworks for the information economy; (c) infrastructure, capacity building and applications to harness information and knowledge; (d) fostering science and technology in developing countries; (e) public information, civic dialogue and effective governance; and (f) life-long learning and distance education.

As would be befitting such a conference, the entire proceedings are on-line¹⁰, including the recommendations and supporting case studies addressing the six development challenges posited above. The recommendations from the policy and regulatory group dealt with deregulating telecommunications sectors, allowing local community control over broadcast technologies, and access issues for the poor. Unfortunately, there was no discussion or material presented on how Internet technologies are/can be used as a tool for strengthening economic policies, but there were recommendations/examples of how the Internet is a tool for strengthening democratic societies.

B. World Bank. In many respects, the World Bank is leading the donor community in the application of Internet technologies to development, including its use to strengthen economic policies. While there is no central inventory of ongoing Internet applications across countries, the World Bank's Telecommunications and Informatics Division has its own initiatives to promote use of the Internet, two of which are described briefly here and as case studies. Furthermore, the Economic Development Institute is heavily engaged in distance education, including learning associated with strengthening economic policies.

The Technology Network (or TechNet)¹¹ consists of a series of World Bank Group initiatives in the area of science and technology for development, seeking to (a) improve understanding of the impact of new technologies on developing countries; (b) raise awareness of the opportunities and challenges created by rapid

http://www.globalknowledge.org/text/about_gk97.html

http://www.worldbank.org/html/fpd/technet/

technological progress; (c) integrate technological concerns into the development strategies of member countries; and (d) accelerate the transfer of new technologies. Among its activities, TechNet holds Electronic Conferences, called "Think Tanks" on various topics within these objectives. Expert panelists from both inside and outside the World Bank draft preparatory papers, help moderate the discussions (which can run for several months) and prepare final recommendations/findings. Recent Think Tanks have included a Knowledge Assessment (Pacific Islands Case Study), and the World Development Report for 1998 on Knowledge for Development. Other topics have included "The Information Society Index: The IDC/World Times Approach", "Telecommunications Infrastructure and Economic Development: A Simultaneous Approach", "Capitalizing on Emerging Global Telecommunications Ventures: Opportunities for Developing Countries", and "Promoting and Strengthening Intellectual Property Rights Protection in Developing Countries" The Case of Turkey".

The electronic discussion on the Pacific Islands case study was monitored. While much of the dialogue was among donors and consultants, and often in very theoretical and esoteric terms, the open Internet forum did allow for input from participants who might not normally attend a physical conference on the subject. For example, a librarian on one of the Pacific islands spoke of his/her reality, opportunities and constraints.

The World Bank also has plans to enliven its economic analysis and research by creating a live database in Africa. A traditional database does not necessarily get updated, and there is no way the user can contribute information to that database. However, with the African Briefing Book database, an economist, in say Kenya, can enter that database, look at all the data desired, cut and past that material for his/her own use, and compare Kenya with any other country in Africa. The more this data is accessed and used, the more interest the user has in maintaining and updating the data, so there is a live approach to data management. The World Bank plans to go on-line shortly.

A second initiative of the World

Bank is InfoDev, Information for Development Program.¹² It funds activities which assist countries to evolve into an information economy and society, from an approximate \$7 million fund from a number of donor countries (including Switzerland, United Kingdom, France, European Union), and IBM. Its main objectives are to create market-friendly environments, reduce poverty and exclusion of low income groups, improve education and health, protect the environment, and

http://www.worldbank.org/html/fpd/infodev/infodev.html

increase the efficiency, accountability and transparency of governments. InfoDev also supports the InfoDev Forum, which contains databases of proposals as well as moderated electronic conferences on information technology issues. A number of its ongoing and proposed projects address policy issues ranging from establishing national forums for telecommunications and information services across Africa, developing a national informatics and telecommunications policy for Russia, telecommunications reform for Trinidad and Tobago, development of an integrated information system to serve the governance of Belarus, and efforts to build information services for privatization in the Newly Independent States.

The World Bank is also very much engaged in economics-related distance learning, through its Economic Development Institute. EDI established Moscow State University's Russian language web sites which present economics policy case studies for training purposes. These sites are used by Russian professors to teach market economics and are revised as new pilots every 6 months. In the Morozov Maraza Project (where USAID is also involved), EDI helps a business service center with distance training for the economic valuation of assets. EDI is also considering a request from Russia's Ministry of Education and UNESCO to utilize 4 Russian satellites to teach undergraduate economics with an emphasis on market economics. This will not just be video lecturing, but will have an Internet based backbone. Beyond these, EDI delivers its classic economic policy courses to overseas clients via distance education through the IBRD resident offices. Beyond the economic policy courses, EDI is developing a program called Education Net, a web-based program to improve distance learning in Africa. EDI also plans to increase its distance education capacities by teaming up with institutions such as the Monterey Institute of Technology and MIT.

C. International Finance Corporation (IFC). IFC has just launched an Internet-based investment tool for Africa, known as the Africa Business Network (ABN).¹³ It is oriented towards the needs of international investors and African entrepreneurs. ABN was created to increase information access for African businesses, promote Africa as an investment destination, and improve networking within the African business community. It brings together useful business information from the IFC, World Bank Group, and private and public sector partners. For the international investor, ABN provides details on govern-ment and business contacts, investment codes, privatization and consulting services. The African entrepreneurs can use ABN to gain valuable information on formulating business plans, creating market and feasibility studies, and developing bankable investment projects. While ABN's main audience is the private sector, by articulating the investment rules and strategies of African countries, they may have an indirect influence on reforming the least competitive economies.

http://www.ifc.org/abn/

D. Multilateral Investment Guarantee Agency (MIGA). This World Bank Group encourages the flow of foreign direct investment to its developing member countries for economic development. An Internet-based investment promotion network, IPANet, was established in late 1995 to promote such international investments.¹⁴ **IPANet offers information** ranging from profiles of business operating conditions to detailed descriptions of investment projects, joint venture opportunities, and privatization initiatives. While its primary objective is to stimulate private direct foreign investment flows, it does allow users to examine and compare the investment promotion policies of developing countries. For example, the latest electronic IPAnet Newsletter announces new or improved web sites for Thai, Czech and Armenian investment promotion boards. Furthermore, IPANet is developing Privatization Link, an on-line information service allowing privatization agencies to announce their offerings. Privatization Link will initially focus on Africa with information on Madagascar, Mozambique, Uganda, Ghana and Zambia being available by the end of the year. Again, the Internet allows for transparency and enables users to compare. This has a salutary effect on counties developing more competitive investment and privatization policies.

E. International Monetary Fund. As a consequence of the Mexican peso crisis of 1994, the Internet took on new importance for the IMF. The international financial community realized that it needed more timely and transparent information on key financial data, such as foreign exchange reserves. The IMF responded by developing the Special Data Dissemination Standard to guide IMF members that have or might seek access to international capital markets. These standards are expected to enhance the availability of timely and comprehensive statistics and therefore contribute to the pursuit of sound marcroeconomic policies; and to the improved functioning of financial markets. The Standards are presented on the IMF's home page¹⁵. Subscriber member countries are expected to submit information about their data and their dissemination practices to the IMF for presentation on an electronic bulletin board, maintained by the IMF and accessible through the Internet.

Among the policy papers are "Monetary Frameworks - Is There a Preferred Option for the European Central Bank?"; "Fiscal Accounting for Bank Restructuring"; and "Exchange Rate Policy and Monetary Strategy Options for the Philippines-The Search for Stability and Sustainability".

The International Monetary

Fund home page also has information about itself and its programs. Papers and reports are available for downloading on various subjects, including policy analysis. The IMF is also developing plans for distance education in three economic areas: general economic analysis, design of adjustment programs, and statistical analysis.

F. InterAmerican Development Bank. Similar to the World Bank, the InterAmerican Development Bank is launching a centrally-managed program, Informatics 2000¹⁶, to encourage the deployment of significant information technology applications by the Year 2000 by the public and private sectors in support of economic growth and social development throughout Latin America and the Caribbean. Working with advice from the region and from the information technology industry, the IADB has drafted a plan to: (a) identify information products and services with widespread demand in the region, (b) develop strategies of policy reform and market development to enable their rapid introduction; and (c) arrange for policy advice, technical assistance and funding to facilitate implementation by the year 2000. Task forces have been meeting to develop information technology plans for agriculture, banking, civil society, education and training, health, investment funding, modernization of the state, policy and market reforms, promoting access and affordability, and enhancing trade and electronic commerce.

For example, the banking sector task force provides the following vision for how information technologies help achieve economic growth objectives: "Information technology solutions can assist in improving the quality and extending the reach of banking services. In addition, they can assist in risk management at the individual bank level and at the banking system level. The Task Force is recommending a series of actions that will bring the advantages of information technology solutions to banking, believing that current experience demonstrates that dramatic advances in the quality and soundness of banking in the region can be achieved quickly, with salutary impacts on economic growth and social development in the region." The report goes on to summarize the current banking situation, identify the types of applications, products and services that are needed, indicate the adequacy of communications and information infrastructure, and articulate the strategies necessary to quickly bring the benefits of information technologies to Latin America's banking industry.

http://www.iadb.org

G. United Nations Development Program (UNDP). The Sustainable Development Networking Programme (SDNP)¹⁷ is a UNDP initiative that seeks to help developing countries take advantage of the rapid development of information technologies. It links users and suppliers of information in developing countries via computer mediated communications (now mostly Internet) on a participatory basis. Thirty-three countries have participated in this program which is an outgrowth of the 1992 UN Conference on Environment and Development. One of SDNP's main targets is to create a national body of expertise to implement, support and sustain the process of information dissemination and exchange for sustainable development. Training is provided on where and how to look for specialized information on the Internet.

Pakistan has had a SDNP program since 1993. The SDNP has been providing email services to over 3,500 nodes or computers connected to the SDNP server in four cities. This amounts to 7,000 users from various walks of life in Pakistan. The operation is considered to be largely self-sustaining. A wide range of assistance was provided, such as helping Pakistan's National Tariff Commission find toxicity and environmental impact information about specialty chemicals. The UNDP believes that SDNP in Pakistan has had an enormous impact on the process of networking at the policy level, has contributed to a radical change in the way connectivity and networking is perceived, and has also helped in the process of privatization of the national telecommunications sector.

A second UNDP information and communication technology initiative has just started. It seeks to expand rural telecommunications connectivity and to conduct and assess pilot projects involving distance education, telemedicine, telebanking in rural areas, and civil society processes.

- **H. United Nations Conference on Trade and Development (UNCTAD).** The Global Trade Point Programme was launched in 1994 to support and facilitate efforts to stimulate the trade competitiveness and trade efficiency of national economies. At Trade Points, public and private sectors cooperate to improve efficiency in six main areas: customs, banking and insurance, transport, business information, business practices, and telecommunications. While launched to focus on the provision of business information and services, especially for small and medium scale businesses, the program may be evolving to the point where policy constraints in the six areas will be addressed. The Trade Point for Senegal, in fact, might be reaching that point.
- I. Canadian Aid: Canadian International Development Agency (CIDA) and the International Development Research Center (IDRC). While CIDA may have ongoing country programs which utilize Internet technologies to strengthen economic policies, numerous calls to CIDA headquarters in Ottawa revealed that this information is not readily available. However, IDRC, the Canadian public corporation with a mandate to support research that meets the priorities of developing countries and the basic needs of

http://www.undp.org/sdnp/sdninet.htm#sdn

the world's poor, is heavily engaged in the extension, application and study of Internet technologies to development. In fact, IDRC¹⁸ may be the most focused of all donor agencies in this regard. IDRC also manages a multidonor effort called Bellanet, which is discussed in the section on non governmental organizations, below.

IDRC has employed information and communication technologies, including Internet, in a range of projects, such as a pilot Tanzania cooperatives information system, a regional market and trade information system for the Eastern Caribbean, a Brazilian land trials information network, a satellite communications health research project, a geographic information system for India, a capacity-building effort in electronic communications for African development, an African women's networking support program, a public process for formulating telecommunications policy and regulation in South Africa, and an African networking initiative for telecommunications.

IDRC has played an important role in policy development related to information and communication technologies in Africa. Project activities were felt to have influenced national information and communication technologies policies and legislation and the policies of donor agencies with respect to such technologies. Impact was felt to have been realized through consultations and lobbying efforts by IDRC staff, and facilitated by the use of email and Internet access.

J. Consultative Group on International Agricultural Research (CGIAR). The CGIAR is a worldwide network of institutions that seek to improve the productivity of agriculture, forestry and fisheries in developing countries, reduce malnutrition, and enhance the well-being of the poor while preserving the environment. CGIAR and its 16 centers have themselves moved toward use of the Internet for internal communications, research, and public outreach. One of these 16 centers, the International Service for National Agricultural Research (ISNAR), has a mandate to strengthen national agricultural research services. ISNAR has recognized the importance of information technologies to making the national agricultural research efforts more effective and has been offering assistance in this area. ISNAR plans to link all national agricultural research institutions electronically and hold virtual conferences; the first two covering management of biotechnology research, and agricultural research priority setting (a policy subject).

[&]quot;Use of Information and Communication Technologies in IDRC Projects: Lessons Learned" by Michael Graham, Evaluation Unit, IDRC, April 1997. See web site http://www.bellanet.org/partners/ldia/op-eval.htm

The one CGIAR center which deals solely with economic policies is the International Food Policy Research Institute.²¹ IFPRI relies on the Internet to carry out research, outreach and disseminate policy research studies, and to conduct virtual discussions, much like Technet has. There is a Gender Consultative Group Bulletin Board originally established to link gender researchers within the CGIAR system around the world. The group now includes outside policy makers and women-indevelopment experts. However, the discussion continues to focus on technical issues like measuring gender differentials within agricultural production and marketing systems. Every six months the bulletin board is scrubbed and a newsletter is created and distributed electronically -- and in hard copy for those without Internet access.

IFPRI also conducts focus groups via the Internet. The focus groups are well advertised and papers are commissioned and circulated. Each paper is listed on the Internet and then there is an open floor 3-4 weeks, before another paper in the sequence is distributed. These focus groups have been considered very successful since they obtain a wider set of views than a normal conference would result in. A recent Internet-based focus group discussed "gender and property rights"; the proceedings of which were published in World Development. South African legal experts in land restitution made important contributions; their participation would have been unlikely in a more traditional setting.

K. MultiDonor Collaboration. Before leaving this section, it is interesting to note two efforts to improve donor coordination and policies utilizing the Internet. The first example is of a multidonor effort to coordinate donor assistance to Russia. The Donor Assistance Database²² was started by the G-7 support implementation group to coordinate donor assistance to Russia. Twenty countries and ten international organizations now participate, which constitutes 97% of the donor assistance to Russia. Ninety billion dollars worth of external assistance, 6,000 projects and activities, and three levels of specificity (program, project and activity) covering assistance to the Russian Federation since 1991 are found on this site.

While the SIG 7 is a donor-led effort to use Internet technologies to strengthen donor coordination, another approach was tested by the Development Assistance Committee (DAC), Paris. Their approach was to have the Government of Ethiopia lead donor coordination via the Internet in Addis Ababa. Here the DAC (with support from USAID) worked with the Government of Ethiopia to create an Internet presence in which the Ethiopians would present their own development strategies and plans, and then ask the donor community to fit their strategies, programs and activities within the directions that the Ethiopians desire to move. Launched in connection with the June GK97 Conference, this effort has taken longer to implement, in some measure due to internal coordination problems within the Government of Ethiopia.

http://www.cgiar.org/ifpri/

"Our literature search indicated that the WWW is accelerating international cultural interaction. But perhaps more importantly, the WWW is changing the way private and public organizations do business. The Internet provides employees with tools they can use to increase their performance levels, to interact, and to gather knowledge. Organizations believe that the Internet offers the ability to continuously update and disseminate information. Corporations are increasingly using the Internet for such things as web-based confer-

encing and on-demand training for employees."

GAO/GGD Report 97-86: Internet and DialUp BBS.

VIII. OTHER U.S. GOVERNMENT INTERNET USE TO STRENGTHEN ECONOMIC POLICIES. Federal government agencies spent almost \$350 million on Internet activities for the past three years, created 4,300 world wide web sites, provided Internet email access to 1.7 million employees (50% of workforce) and world wide web access to 1 million employees (31% of workforce).²³ It is obvious that the Internet is perceived as having major benefits to the public sector, as the accompanying quote testifies to.

In this study, nine U.S. Government Agencies were surveyed because of their engagement internationally on issues associated with economic policies.

A. U.S. Department of the Treasury. The Office of Technical Assistance, International Bureau, U.S. Department of Treasury provides technical assistance to the Former Soviet Union in three areas: government debt, budget and tax policy. Their assistance is provided in a traditional fashion, with long-term advisors and short-term consultancies. Email is used to communicate with advisors in the field and to pass documents back and forth. However, there has not been, and there is no plan to offer, virtual technical assistance. Also, surprisingly, the Treasury officials who administer these programs do not have access to the full World Wide Web, so do not use it to conduct economic research or carry out other development applications. The U.S. Department of the Treasury largely does not get involved with formal training, so did not consider distance education programs. However, the Office of Technical Assistance may construct a web page at some point, but largely to educate the American public about its activities.

B. U.S. Securities and Exchange Commission (SEC). From time to time, the SEC provides technical assistance and training to developing country securities market regulators -- when funding is provided by USAID. Discussions are now underway with

[&]quot;Internet and Electronic Dial-up Bulletin Boards", U.S. General Accounting Office report (GAO/GGD-97-86) dated June, 1997.

USAID's Center for Economic Growth to provide global technical assistance, some of which might be performed via the Internet. Initial thoughts are to establish a web page, with information that a developing country regulator could read, on a range of topics. These developing regulators would also be able to dialogue with knowledgeable individuals within the SEC itself, again electronically.

The SEC also has short-term training programs (one-to-two weeks duration) for senior foreign government and stock exchange officials to encourage the development of regulatory infrastructure and to promote investor confidence in such markets. Approximately 200 participants were trained last year. Another possibility being considered would be to hold such a course on-line. However, since the SEC's mandate is American securities regulation, USAID would need to underwrite the costs of moving the existing training on-line. When asked about the feasibility of electronically linking country securities regulators via the Internet, the SEC suggested that the International Organization of Securities Commissions might move in this direction.

C. National Telecommunications and Information Agency (NTIA). A Department of Commerce agency, NTIA is the executive branch's principle voice on domestic and international telecommunications and information technology issues. Among its responsibilities are to champion and negotiate greater foreign market access by advocating competition in and liberalization of telecommunications markets around the world. NTIA has taken a leading position on advocating growth of the Internet, both domestically and internationally, and is engaged in the myriad technical issues associated with these pioneering technologies.

NTIA's web page²⁴ is extensive, providing a wide range of reports on technical subjects, policy issues and positions, and commercial developments. NTIA also has a very extensive international activities web presence, which is used to explain itself primarily to an American audience, and which is hyperlinked to official international organizations such as the International Trade Union, Organization for Economic Cooperation and Development, World Trade Organization, and international satellite and regional organizations. A secondary website called "Diane's List" helps a viewer log onto an outstanding variety of web sites, ranging from mass media news services to standards setting organizations, intellectual property rights sites, Internet groups and electronic commerce reports. A deliberate effort has been made to link NTIA via the Internet with every international telecommunications organization known.

http://www.ntia.doc.gov

NTIA finds the Internet to be an effective tool to push for telecommunications policy reforms. NTIA participates in the eighteen country Asia Pacific Economic Community (APEC) Telecom Working Group. The APEC Telecom Ministers have agreed to develop and maintain a web site as an efficient means of communicating and to keep everyone informed about policy developments within the eighteen economies, some of which are less open than others (e.g. China). This web page has related links to all APEC economies and includes a spectrum database. There is a separate web site for the APEC Secretariat in Singapore.

Based on experience within the APEC context, NTIA believes that the Internet forces countries to declare their policies and intentions, and compare themselves with others. The Internet is thus a tool for policy dissemination and a clearinghouse on resource questions. It helps consultants advise telecommunication firms where and where not to market and invest. For APEC, the web is an exercise in transparency. Right now, for example, the APEC members are putting their spectrum (radio frequency) policies on-line, forcing policies to be articulated, and compared.

- **D.** United States Information Agency (USIA). The USIA is responsible for promoting the understanding and acceptance of U.S. policies (including economic) and culture in foreign countries. The USIA has embraced the Internet as a very effective tool to carry out its public diplomacy mandate.²⁵ Among their electronic initiatives include:
- a. Substituting electronic platforms (digital video conferencing) for sending speakers overseas to address economic issues, e.g. trade, intellectual property rights, and privatization;
- b. Reporting on economic issues by USIA writers/editors, using Internet sources and reporting via the Internet;
- c. Adding electronic journals on different themes such as trade sanctions and job creation. The web is also great for fast-breaking issues, for example "fast track" trade legislation;
- d. Evolving overseas libraries into virtual Information Resource Centers; and
- e. Incorporating distance education into exchange programs. To stimulate interest and creative uses of electronic education, a Distance Education Internet Fund has been established to build into regular training programs.
- **E. U.S. Department of Commerce International Trade Administration (ITA).** ITA administers the STAT-USA program which provides a wealth of relevant information to American businesses interested in overseas markets, via the Internet. While economic policies of developing countries and emerging markets are contained in STAT-USA, the audience is mostly American. However, some regular users of STAT-USA may be foreigners and there will be a concerted effort to market STAT-USA abroad: first in the northern Hemisphere, and later on to other nations as well. However, the overriding objective is to reach Americans and make them successful in selling and investing abroad.

ITA also administers the Special American Business Internship Training (SABIT) program²⁶, to assist in the economic restructuring of the independent states of the former Soviet Union by exposing top-level business executives and scientists to American ways of innovation and management. Participants are placed in U.S. firms for 2-6 months to gain first-hand knowledge of a market economy and to develop long-term working relationships. Funding is provided by USAID, and more than 300 participated in 1995. The SABIT web site explains the objectives and parameters of the program and instructs both American businesses and Russian students how to apply, which can be done on-line. While most matchmaking is done through personal visits, the Internet has helped identify some American businesses which are participating. However, given the modest access of Internet services in the former Soviet Union, the Internet doesn't play much of a role in Russian participant identification.

F. U.S. Department of Agriculture: Economic Research Service (ERS) and Foreign Agriculture Service (FAS). ERS has offices in Moscow, Geneva and Botswana. The Internet is used primarily as an email service to communicate, and it is particularly helpful in communicating with the World Trade Organization in Geneva, through the Foreign Agricultural Service Officer in that location. ERS' work is research-oriented, modeling and networking with other agricultural economists. Groups are studying food security and the future of world agriculture. Some data and information is gathered and disseminated through the Internet, but USDA ships most of its data to Cornell University for storage. Much of the USDA data collection ends up at universities. USDA has bulletin boards for external communication, such as farm costs and returns surveys, which get as many as 12,000 "hits" a month.

The Foreign Agriculture Service uses the Internet extensively to communicate with their overseas offices and with the USDA cooperators (such as the American Soybean Association). FAS has a home page²⁷, and 11% of all "hits" are from foreigners. The FAS has instituted a program whereby they pay for 50% of the developmental costs of cooperators setting up web pages which have an international focus and which are hyperlinked to the FAS web page. Individual FAS offices overseas also have their own home pages. FAS is now setting up an intranet (FASNET) whereby the 80 producer cooperators and FAS can have a forum to share information and chat to resolve issues. There will be cyberlocations to post proposed cooperator programs, which can then be reviewed and jointly modified on-line.

http://www.mac.doc.gov/sabit/sabit.html

- G. U.S. Trade Representative (USTR). While the US Trade Representative's Office has an extensive web presence²⁸ and is engaged in negotiating foreign economic policies, it uses its Internet space to publish information for the American public on trade agreements, federal registry notices, and U.S. Government positions; not for a foreign audience. At the same time, the USTR's latest goal is to seek policies that permit growth of the Internet. USTR has been negotiating policies for years which help create an environment in which the Internet will work (such as intellectual property rights protection, telecommunications market openings and foreign investment policies), but not until recently has it targeted Internet access as a policy goal for negotiations with foreign governments.
- H. U.S. Trade and Development Agency (TDA).²⁹ While TDA has financed market studies and feasibility studies for projects which involve telecommunications services and the Internet, it does not engage in policy strengthening activities in any way. TDA has undertaken telecommunication studies (including Internet) in several Southeast Asian nations. In Malaysia which plans to build an information technologies supercorridor outside of Kuala Lumpur, thought is being given to setting up an Internet matchmaking service for Malay and American firms seeking out business partnerships.
- **I.** Internal Revenue Service (IRS). The IRS has a Tax Administration Advisory Services which shares IRS technical expertise with foreign governments so that they improve their tax administration as a means of developing their economic infrastructure. They also host a variety of U.S.-based training courses. However, aside from email for communications, not much use is made of the Internet.

IX. NONGOVERNMENTAL ORGANIZATION INTERNET USE TO STRENGTHEN ECONOMIC POLICIES

Internet use among non governmental organizations is as varied as these organizations themselves. This sample of twenty-three such NGOs covers everything from traditional foundations, to business associations, newer NGOs concerned with a specific country or region, and those involved with telecommunications and other sectors.

Two examples of EurAsia Internet grants:

a. Support to an Armenian news agency to prepare and distribute a bulletin with financial and business information via the Internet; and

http://www.ustr.gov

http://www.tda.gov

A. The EurAsia Foundation³⁰ was just established in 1993, and promotes democracy and market economies in the Newly Independent States of the former Soviet Union. responds quickly with small grants to other organizations, and generally does not administer its own programs. However, it currently administers three programs in small business lending, economics education and media. Its program areas relevant to this study are (a) business development (including business associations, and legal and policy reforms aimed at the business environment); (b) business education and management training; and (c) economics education and research to improve the economic policy-It also has a separate program just on electronic making process in the NIS. communications, supporting activities which help ensure a free flow of information to NIS citizens through easy and affordable access to the Internet. Specifically, the EurAsia Foundation supports programs which provide access to the Internet for non-profit NIS organizations; develops new on-line resources in NIS languages; provides training for users and administrators of Internet services; and produces resource materials on information available through the Internet.

The Economics Education and Research Consortium (EERC) seeks to improve economic policy making through b. Support to a scientific and technical center in programs aimed at raising the level of the economics profession in the NIS. In Ukraine, the EERC supports the development of a Masters Degree in Economics program. In Russia, the EERC supports small research grants and other complementary activities to build a professional community of Russian economists. Aside from the EurAsia

Russia to provide an Internet outlet for exposure of scientific and technical projects in the region to the domestic/foreign markets.

Foundation, contributions are made by the World Bank, the Ford Foundation, Staff Foundation, Pew Charitable Trust, and the Soros Open Society Institute; the latter providing the Internet connectivity (see below).

B. Soros Foundation Open Society Institute -- Internet Program³¹ began in 1994. Its objective is to provide email and full Internet access to individuals and organizations throughout the Soros network, with training in the use of the resource and content development a byproduct of the activities. The program funds an array of pilot projects using different technologies to provide Internet access. Major populations targeted include academic and research institutions, but also include secondary schools, media, libraries, medical institutions, museums and others. Thus far, the Open Society Institute has spent or committed more than \$12 million to over 63 projects in 28 countries.

http://www.eurasia.org

http://www.soros.org/Internet.html

While not viewing the Internet as a tool for strengthening economic policies per se, the Open Society Institute has strengthened many institutions which will shape economic policies in transitional societies. Aside from the EERC program, noted above, the Open Society Institute has supported the Central and Eastern European Network (CEENET) which is connecting academic and research institutions throughout Eastern Europe; and is embarked on a major program to connect Russian Universities to the Internet, creating multimedia laboratories to expose Russian students to the information available around the world via the Internet.

C. The John D. and Catherine T. MacArthur Foundation³² has a mission which focuses on "the development of healthy individuals and effective communities, peace within and among nations, responsible choices about human reproduction, and a global ecosystem capable of supporting healthy human societies". Most grantmaking is through two program: The Program on Human and Community Development, and the Program on Global Security and Sustainability. It is the latter program which provides two examples of Internet applications which impact on international policies.

The Foundation has supported NGOs in Central America and linked them with the Internet. Among the issues they work on is economic policy-making. The second program is administered by Columbia University and uses the Internet extensively to spur research and thinking on international security and peace in the sensitive Persian Gulf. This latter Internet application, although focused on security and not economics, provides a very interesting model which will be presented below.

D. The Rockefeller Foundation³³ has a special initiative for Africa to build human and institutional infrastructure with an emphasis on closing the gender gap in school enrollment and achievement. The Rockefeller Foundation thus has programs to improve the teaching of science and technology, train more and better natural and social scientists, and enhance electronic communications. They encourage all grantees to get an email account and have a full-time consultant to facilitate electronic linkages and train Rockefeller beneficiaries how to use email and Internet. However, because of the high costs of full Internet service in Africa, more attention is paid to using email.

Likewise, they have programs to train professional African economists. Several years ago, Rockefeller (and Ford) Foundations supported the creation of a distance education program by Wye College, part of the University of London, for a Masters Degree in Agricultural Development (which is mostly economics training). Rockefeller supported 60 students from Zimbabwe and Kenya to study in this fashion. While at first the training was mail intensive, the program has now moved to electronic version.

E. Professional Economics Associations. The American Economics Association (AEA) has its own Internet presence³⁴, providing information on the organization, membership, publications, annual meetings, committees and news. Among the publications which can be obtained via the Internet are the American Economic Review, Journal of Economic Literature, Journal of Economic Perspectives, Directories of Members and Economic Index Publications.

The American Agricultural Economics Association (AAEA) is also present on the Internet.³⁵ With a more sophisticated web site than the AEA, there is the ability to find out about the AAEA, linkages with agricultural economists, information on meetings, membership directory, and access to publications (AAEA Newsletter, American Journal of Agricultural Economics, CHOICES magazine, and Review of Agricultural Economics). There is also a "chat room" whereby AAEA members can communicate with their professional peers on various topics associated with agricultural economics.

The National Association for Business Economics has its own web presence. Aside from professional journals (Business Economics and NABE News), their web site contains a comprehensive economic policy survey of the American economy, an opportunity for members to participate in interactive discussions, and "Roundtables" for special interest groups, including technology, corporate planning, financial, international, regional/utilities, health economics, and manufacturing/industry. This national association is a member of the International Federation of Associations of Business Economists.

Other economics associations are also present. For example, there is the Econometric Society, American Real Estate and Urban Economics Association, International Economics and Philosophy Society, Southern and Western Economic Associations, International Economics and Philosophy Society, Economic Science Association, Society for Computational Economics., and many others -- both of American and international origin and scope.

F. Institute for Agriculture and Trade Policy (IATP) was established in 1986 as a nonprofit research and education organization. IATP seeks to create environmentally and economically sustainable communities and regions through sound agriculture and trade policy. The Institute assists public interest organizations in effectively influencing both domestic and international policymaking through a number of activities, which substantially rely on Internet technologies. Specifically: (a) Monitoring, analysis and research: The Internet is used extensively to monitor key events and topics related to agriculture, environment, community economic development and trade. It is then analyzed and policy options researched and presented. (b) Education and Outreach: Educational materials are distributed to policymakers, opinion leaders and the public at

http://www.vanderbilt.edu/AEA/

http://www.aaea.org/

http://www.nabe.com

large, with the Internet becoming a more important tool every day; (c) Training and Technical Assistance: Training, consulting and technical assistance to interested groups, includes the use of the Internet; and (d) Coalition-Building and International Networking: Concerned groups are brought together in coalitions to increase coordination of activities. Global electronic bulletin boards are effective tools for this. IATP has a home page³⁷ which describes their organization, with electronic fora and archives on trade strategy, trade news, and a trade newsletter.

IATP works with a core group of approximately 100 like-minded NGOs around the world. Fifty percent of their partners have email and, of this group, eighty percent also have access to the full world wide web. (The remaining fifty percent at least have fax services.) IATP finds the Internet to be a critical tool for affecting global economic policy change. The Internet allows the NGO community to overcome its biggest constraint to united action: distance. Another constraint is language: IATP uses software applications that help translate Internet text from one language to another, which helps with international NGO networking.

IATP has an electronic bulletin board/newsletter on the implementation and effects of the North American Free Trade Agreement, in both English and Spanish. Readers are Latin American nonprofit organizations interested in these issues, ranging from peasant organizations to business groups. Using the Internet, IATP was also able to form united positions among 80-90 NGOs around the world in preparation for the FAO World Food Summit. By entering these meeting with a united position, the NGO community was able to affect change on such issues as food policies and handling of grain reserves.

G. United States Institute for Peace (USIP) was established by Congress in 1984 to promote the peaceful resolution of international conflicts. While the Institute's focus is on security, it does need mentioning because of its special focus on "virtual diplomacy". Under this program, USIP is exploring the long-term issues involved in the changing character of international relations and helping those engaged in analyzing and practicing international relations to understand and apply the new information technologies in preventing, managing and resolving international conflicts.

Two examples of their grants illustrate these activities: (a) a human rights bibliographic database being developed for use on the Internet; and (b) current international boundary information being transferred onto the Internet for quick retrieval by media and practitioners. USIP is planning a major rule of law program in Rwanda which will utilize the Internet to (i) provide access to materials from U.S. law libraries including case law, statutes and pending legislation; and (ii) allow Rwanda to present its laws to the public and to neighboring countries.

As one would expect, the USIP also has a world wide web site³⁸ with an electronic index to resources, publications and locations in the area of international conflict resolution for use by scholars, practitioners and the general public. There is also an electronic clearinghouse on conflict resolution and reconciliation activities in Bosnia, and work has gone on with respect to communication networks in responding to complex humanitarian emergencies. One could envision creating parallel Internet technologies which help resolve economic conflicts, such as trade disputes, between nations.

H. Transparency International (TI). TI is a non-profit, non-governmental organization whose objectives are to: (a) curb corruption through international and national coalitions encouraging governments to establish and implement effective laws, policies and anticorruption programs; (b) strengthen public support and understanding, and enhance public transparency and accountability in international business transactions and the administration of public procurement; and (c) encourage all parties to international business transactions to operate at the highest levels of integrity. TI's strategy includes: (a) establishing coalitions to develop national anti-corruption campaigns; (b) launching an information center for practical research into corruption; and (c) building national chapters of anti-corruption programs. The Internet plays a large role in realizing these objectives and carrying out the strategy.

Transparency International studies include:

The National Integrity System of Tanzania.

Corruption, Democracy and Human Rights in West Africa.

Corruption, Democracy and Human Rights in East and Central Africa.

A Study of Corruption in International Business Transparency International's web page³⁹ Transactions.

lists its seventy-two national chapters, many of which have their own web pages and which can be reached via email. With its chairman in Germany and Managing Director in New Zealand, TI is truly a virtual organization. One can order a wide range of TI reports, now by mail but soon by Internet. Aside from newsletters and annual reports, TI offers an intriguing array of studies, some of which are indicated in the accompanying insert. The reader can also download "The TI SourceBook", which brings together "best practices" in the area of building and maintaining a country's national integrity system. The TI Sourcebook compiles codes, laws, rules,

http://www.usip.org

http://www.transparency.de/

instruments and other documentation designed to make an integrity system function.

I. Harvard Institute for International Development (HIID) is the primary center for international development consultancies and related training at Harvard University. HIID has long been engaged in economic policy strengthening in developing countries, through long and short-term advisors and training opportunities. They have a constantly evolving home page⁴⁰, with material on: (a) administrative and program information ranging from describing HIID to the general public to biodatas for the HIID director and deputy director, to listing HIID's programs, training opportunities, development projects, calendar of event and even employment opportunities; and (b) academic and substantive material, including abstracts of all their research papers, publications of the HIID director and deputy and others, and content from several projects. There is also a private intranet for internal communications and development databases for HIID staff only.

There is the sense (but hard to confirm) that Harvard's web pages and similar ones contribute most significantly to the field of development by putting program material, data, and research papers at the disposal of advisers, investors, officials and NGO grant-making organizations. While the Internet is used as a means of communications and research from various databases, no examples were provided whereby HIID uses the Internet as a tool for directly contributing to economic policy strengthening in developing countries.

J. Michigan State University (MSU) is heavily engaged in agricultural marketing research in Africa. Their researchers use the Internet to the maximum extent in their programs and see it playing a greater role in the future. They have their own web presence.⁴¹

In West Africa to date, MSU has used the Internet mainly to facilitate communications between researchers, utilizing both email and file transfer. However with the extension of Internet through much of West Africa over the last year or so, MSU sees a number of opportunities to expand uses of the web for providing market and policy information. MSU is now developing a proposal to work with the Mali cereals information system along these lines.

MSU is working in Mozambique on marketing information services. Prices are pulled off the world wide web and published on the MSU project's web site. In Ethiopia, MSU is working with the Ethiopian Grain Trade Exchange and has developed a grain market information system, which they hope to put on-line as soon as Internet access comes to that country. MSU sees the need for up-to-the-minute agricultural pricing information as critical to making good informed agricultural policy decisions.

http://www.aec.msu.edu/agecon

http://www.hiid.harvard.edu

MSU has compiled a training manual for using the Internet for agricultural market information and policy analysis in Africa. Several Africans have attended MSU short courses on this material in East Lansing. Now that more countries are getting full Internet access, MSU expects to do more of this training in Africa. The abundance of information on the Internet is apparent from the training manual. Web sites are identified where users can find global agricultural market reports; information on commodity markets, exchanges and quotes; links with other sources; email and discussion groups; weather information; farm journals, and even a currency converter!

The President of MSU has just decided to offer a masters degree in food policy and agribusiness through Internet-based distance learning, targeted on African students. Consideration is being given to putting together on-line training on statistical software packages.

K. Columbia University runs the Gulf 2000 Project, the objective of which is to get researchers and thinkers about the Persian Gulf to discuss issues, mostly political, but economic and developmental issues have arisen. Gulf 2000 depends heavily on the Internet. Internet access in the Gulf region has gone from a situation just a few years ago where no one had access to one now where Internet is available in one form or another in most countries (although access in Saudi Arabia is very limited).

Membership is restricted to approximately 300, a who's-who list of prominent academicians. Approximately 15 Gulf residents are members at this point in time (from such countries as Qatar, UAE, Kuwait, Oman, Bahrain). The rest are from Canada, the U.S. and Europe. Although most are academicians, some are clearly close to governments and provide policy advice. Not many government officials are part of this network, but this will change over time as access gets easier.

One important element of Gulf 2000 is its Internet library with the most comprehensive selection of the best research papers and other documents available on the Gulf region, and the ability for members to have easy access via the Internet. Another important element of Gulf 2000 is the membership itself, highly-regarded names of people studying and working on Gulf issues, and the ability to easily community with this group. There is a listserve which is moderated by a professor at Columbia University, who enjoys high professional regard and the confidence of the members.

The entire process started with an international conference in which 30 very select individuals were identified. This group passed the word about Gulf 2000 around as people work on Gulf issues. Periodic physical meetings continue, to supplement the communications which take place via the Internet. Because membership remains limited to the best Gulf watchers, members feel pride in being involved in a community of likeminded individuals.

Forty percent of all requests for research papers on the Internet come from abroad.

L. Institutional Reform and the Informal Sector (IRIS) Center is

heavily engaged in political-economic-institutional research and policy analysis in developing countries and transitional societies. Their web page⁴² contains working papers and conference proceedings accessed by scholars and officials from the U.S. and abroad. One example is a conference on the economic role of the judiciary in Latin America. The Internet displayed papers and a summary of proceedings which drew additional articles to the web-based conference.

Email is used extensively for daily contact with field offices and counterparts for both technical and administrative matters. IRIS has used the Internet to edit reports on microenterprise in Nepal, advise on natural monopoly regulations in Russia, and consult on fiscal decentralization in Africa. IRIS has set up group subscriptions to various list-serves to build common levels of access to news. IRIS has also drafted a study on credit in Egypt by experts located in the United States, Cairo, London and Albania.

IRIS also uses the Internet for the development of issue-specific networks of expertise. An email network was used for drafters of regional constitutions in Russia, for linking of six secured lending projects, for development of papers, for setting up conferences, and soon for writing three books with a group of Indian economic institutes. And finally, IRIS moderated a listserve for USAID economists, publishing important articles on development economics.

M. The International Center for Economic Growth (ICEG) was established for professional collaboration among the best international free-market oriented economic research think tanks. Originally focused on Latin America, the Center has since established relationships in Asia, Africa, Eastern Europe, and the Newly Independent States, and established and maintained those linkages through traditional physical means.

The most important current use made of the Internet is email. ICEG has significantly reduced the costs of communication this way. With staff spread around the world (Manila, Nairobi, Budapest, New York, Santiago, San Francisco, San Jose, Costa Rica), this is a big saving. Some member institutes have email so ICEG conducts technical assistance using the Internet, the benefits being cost savings and timeliness. [It is noteworthy that the number of member institutes with electronic connections is increasingly rapidly -- an indicator of how the Internet revolution is spreading globally.] ICEG also uses the Internet for research right now.

http://www.inform.umd.edu/IRIS

ICEG believes that their planned approach of making information on local reforms easily available is one of the best ways to take advantage of the informational/organizational capabilities of the Internet. To do this well, ICEG believes one needs to have both a net-work of reliable local sources and high quality academic reviewers. "Getting the information on the Internet is cheap. Reviewing it so that you know it is solid is expensive."

ICEG is in the process of setting up a home

page which will include information (basically a mini home page) on all member institutes around the world, as well as information on their publications, research projects and other activities. This will enable scholars and policy makers to identify institutes in all parts of the world which are working on issues of interest to them (e.g. identify an institute in India working on pension reform or one in Sierra Leone working on microenterprise), and be able to get in contact. ICEG's ultimate goal is to have the best of the local studies accessible through the Internet so that people looking for reform experiences can have easy access to them.

One lesson ICEG has learned is that cost is a real factor for many economic research institutes in developing countries, when telephone connections are often very high. Thus, ICEG will design a web site which sacrifices graphics and pictures, in favor of text and substance.

Although not economic policies, Bella-Net is collaborating with the Association for the Development of Education in Africa to support the use of the Internet for knowledge diffusion and group dialogue on education policy in sub-Saharan Africa. To this end, Bellanet is setting up the web site, providing web access to their statistical database and their working groups reports, and supporting communications.

BellaNet Initiative⁴³ is a consortium of

development assistance agencies (IDRC, Rockefeller Foundation, MacArthur Foundation, UNDP and Canadian, Swedish and Dutch bilateral aid agencies) committed to working together to using information and communication technologies in innovative ways to increase their relevance, effectiveness and efficiency to economic and social development. Launched in 1995, Bellanet is administered by

http://www.bellanet.org

IDRC. While not directly engaged in strengthening economic policies in developing countries, it is directly engaged in studying and improving the use of Internet technologies among donors and recipient organizations. For example, BellaNet is involved in developing on-line dynamic databases (users maintain their own entries and web pages are generated on demand by user requests); systems which allow users with only email access to obtain world wide web information; and the use of simple "lists" to promote coordination and collaboration across time and space. BellaNet is also collaborating with the International Network for Development Information Exchange (INDIX) to provide web access to a selection of the INDIX database (containing 150,000 records describing donor activities) on current and completed information and communications projects. BellaNet is also working with donors in defining methodologies to evaluate information and communication technology projects and to develop a knowledgebase of "best practices"; all of which will be useful in designing, implementing and evaluating the impact of Internet technologies in programs to strengthen economic policies.

O. Center for International Private Enterprise (CIPE), an affiliate of the U.S. Chamber of Commerce, seeks to build and strengthen democracy around the globe through the promotion of private enterprise, market-oriented reform, and legal, regulatory and business institutions. CIPE matches funds with a variety of local institutions, including think tanks, business associations, educational institutions, and media training programs, the building blocks of democratic society.

CIPE maintains an excellent on-line information service known as the Forum on Economic Freedom.⁴⁴ Divided into three sections, the first provides information about CIPE, criteria/guidelines/applications for grants, training programs for business association managers, a calendar of upcoming events, and recent press releases and other news.

A sample of journal articles include:

Building Russia's Housing Market How Think Tanks Improve Public Policy Reforming Egypt's Business Environment Using Media to Lock in Reform

Global Trends: Privatization in 1995 & Beyond Lessons from Successful Reformers: Korea & Taiwan Financial Reform: Paving the Way for Growth/Democracy

The Costs of Grand Corruption

All current and back issues of <u>Economic Reform Today</u>, CIPE's main economic policy journal, are found in the second section. All of the journal articles are made available

http://www.cipe.org

and listed by year of publication and subject matter (business organizations, civil society and democratic reform, corporate governance, economic theory and policy, ethics and government, financial market reform, industry perspectives, information and the media, international economics, political issues in economic reform, privatization, property rights and the informal sector, public policy institutes, training for business groups, and transition to a market economy). Full translations into Spanish are available, and there is a selective capability to translate into Russian, Arabic, French, Polish, Ukrainian and Vietnamese. CIPE has recently added some interactivity to these journal articles which allows readers to post their comments on the published articles for all to see -- thereby allowing a degree of interaction between readers and authors, which is made possible by the nature of the Internet.

CIPE also includes a listing of all its associated members of the Economic Freedom Network, which are organizations which seek to advance economic freedom, democratic consolidation, and business development. Hyperlinks are available which describe the mission of each of these 70 odd member organizations (which range from a Chinese Economists Society to Nigerian Association of Chambers of Commerce and a Lebanese Center for Policy Studies). CIPE also maintains a listserve of approximately 1200 individuals who regularly receive email updates of events at CIPE around the world. Over the past year, this site has registered over 180,000 downloads ("hits") this past year, from more than 90 countries. Twenty percent of all hits come from outside North America.

Why is this Program Important?

"Since the Russian Federation began its transition to a market economy, the amount of business information flowing into the country has become so voluminous that most chambers of commerce do not have the technical facilities to process information and pass it on to their members in a timely fashion. According to the Lower Volga Chamber, the equivalent of 20 Mb of data enters the chamber every month, much of which requires analysis and processing. They also estimate that approximately 60% of this information is not processed and brought to clients in due course. This time delay significantly impacts on the economic development of the region."

CIPE has been active in strengthening the Chamber of Commerce and Industry of the Russian Federation (RCCI) whose aim is to unite territorial chambers of commerce and industry into a single system capable of promoting growth of the Russian economy and its integration into the world economy, and forging trade, economic, scientific and

technological links between Russian and foreign business communities. A case study has been written⁴⁵ on this experience, which addresses the information and communications technology requirements of strength-ending RCCI. The three pronged approach followed by CIPE calls for technology, access to information, and the analytical and marketing skills of chamber staff to utilize this information. It is instructive to note that a cautious, well- thought out approach to the acquisition of equipment is suggested, placing this within the needs of the business membership's information requirements first and foremost.

P. American Chambers of Commerce. The American business communities in developing countries and emerging markets are often represented in American Chambers of Commerce. These groups are increasingly developing an Internet presence. Today, cyber "AmChams" are found in Hungary, Indonesia, Israel, Mexico, Panama, Trinidad and Tobago, Brazil, Costa Rica, Dominican Republic, and Egypt. These groups often articulate and press the host countries they are operating in for economic reforms more favorable to expanded international trade and investment.

The American Chamber of Commerce in Egypt has its own web page⁴⁶, which in fact was sponsored by USAID/Cairo. Information presented include a history and mission statement for Amcham, as well as the monthly Journal of the American Chamber of Commerce in Egypt, bimonthly reports on economic and business events, an updated list of members, business studies, opportunities for new business ventures, and a statement on the investment climate in Egypt.

The American Chamber of Commerce in Indonesia has a more limiting web page⁴⁷ but does provide a mission statement, a listing of its periodicals, and a listing of its numerous committees (ranging from industrial and intellectual property rights to investment and sectoral focuses on energy and mining, and banking). The web page for the American Chamber of Commerce in Panama⁴⁸ has a comprehensive discussion on privatization efforts taking place in that country, covering the phone company, cellular services, Panama Canal, ports, power, toll roads and railways, and race tracks and casinos. There is also a discussion of the Caribbean Basin Initiative.

RRNA's MacroEconomics IQC is found on the web:

http://www.amcham.org.eg

http://www.interaccess.com/apcac/indo.htm

http://www.panamainfo.com/

[&]quot;Strengthening Russian Chambers of Commerce and Industry Case Studies" by Erik Johnson, CIPE, 1997. Found on the CIPE home page.

"Under four separate contracts beginning in 1986, Nathan Associates was selected by A.I.D. to provide services to USAID Missions, Regions, or Bureaus under a Macroeconomics IQC. The 3-year contracts, the last of which was recently awarded, are designed to permit rapid contracting of short-term technical services in developing countries in all areas of macroeconomics, including....Representative assignments carried out by Nathan Associates over the last three years include the following:..."

O. Robert R. Nathan & Associates

(RRNA) is an established consulting firm which has been engaged in providing economic policy advice to developing countries for years. RRNA utilizes Internet technologies extensively. Internet email is used for internal communications both in the U.S. and around the world. Documents are passed back and forth as attached files, despite recurring problems with system compatibility and viruses. RRNA also has its own home page⁴⁹ with both a public and a private side. Internally, employees have direct access, and use it frequently for research. RRNA projects are described to the public, but none require having their own home page at this time. Inward and outward telenetting is restricted for security reasons. Lots of technical assistance is handled by email. For examples, RRNA has transmitted three major memos to the Egyptian Ministry of the Economy in just the past two months.

R. Barents Group. The Barents Group is undertaking two innovative Internet-based distance learning activities for USAID's Center for Economic Growth. The first is designing and implementing a microfinance training course for staff at USAID as well as other funding and implementing agencies to improve their knowledge of how to design and manage effective microenterprise credit programs. The intent is to reach a critical mass so that there will be a significant improvement in such programs worldwide. Distance learning is considered to be the most feasible means to reach this target group because of the dispersed locations of microfinance programs and staff. The assumption is that most potential participants will be within reach of electronic mail and Internet, or USAID's own intranet. Thus the training program will capitalize on electronic communications. Printed materials will complement on-line access. The program will also include procedures for enrollment, monitoring participants progress, and steps towards certification.

Barents Group is also developing an accessible and cost-effective approach to distance learning for Russian bankers; addressing skills and knowledge in risk management, and employing an interactive, multi-media computer-based training program, which could be

delivered via the Internet. Tasks involve identifying core skill training needs and knowledge requirements for which interactive computer-based training is appropriate, acquiring the knowledgebase appropriate to meeting these training needs, developing the curriculum, and producing a pilot training program.

S. Institute for International Finance (IIF) is a global financial services industry association, with 270 members. All major American global banks, investment houses and emerging market economy banks belong. Pension funds and corporations who have a stake in emerging markets financial markets also belong. IIF works in two areas: (a) Economic Analysis of countries (mostly emerging markets) which are the primary recipients of private capital and provides reports re risk management; and (b) policy analysis in the (i) the regulation and supervision of international financial activities (e.g., banking standards, e.g. capital adequacy) and (ii) multilaterals development banks (World Bank and four regional banks) to help them reinvent themselves to play a useful role in the world now that private finance is more important than donor resources.

IIF now has a web site. There is a public access, but this public space only contains a fraction of the information that IIF collects and analyzes. Most, of course, is for their paying membership. Reports which used to take five days to two weeks to receive by mail, can now be downloaded in minutes. Database revisions, which come out 2-3 times a year, are now available instantaneously. Before, these reports were distributed by diskette and frequently got lost. IIF membership is interested in using the Internet more, but only 50 members have Internet access.

T. Information Technology Association of America (ITAA) and World Information Technology and Services Alliance (WITSA). ITAA is a trade association representing the broad spectrum of the American information technology industry, encompassing computers, software, telecommunications products and services, Internet and on-line services, system integrators, and professional service companies. ITAA has a comprehensive home page⁵⁰ with information about the information technology industry, its issues, association programs, publications, meetings and seminars, and important publications. The web pages include public policy and government affairs, keeping ITAA members informed about the latest initiatives in Congress and in the executive branch and helping to shape industry positions on important public policies. Press Releases are prominently displayed which articulate ITAA views on various issues affecting the information technology industry.

ITAA recognizes the importance of the global economy and therefore leads the World Information and Technology Services Alliance (WITSA) which bring 28 software and service associations from around the world, including Japan, India, UK, France, Germany, Spain, Thailand, as well as African

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http://www.itaa.org/

and Latin American representation. WITSA serves as a global voice on the information technology industry, dedicated to advocating policies that advance the industry's growth, facilitating international trade and investment in information technologies and services, and providing members with a network of contacts around the globe. WITSA therefore serves as a forum for the identification of common issues and views, formulates positions on issues, including the recently concluded World Trade Organization Agreement on Basic Telecommunication Services and voices the concerns of the international information technology community at multilateral organizations, such as WTO, the World Intellectual Property Organization, and the G-7.

WITSA members communicate extensively via the Internet. They have their own separate home page. They post most position papers on web sites. For example, currently their home page include positions with respect to the G-7 and global basic telecommunications agreements. WITSA translates positions into French and other languages. The Internet is a way to share information credibly and cheaply.

U. Caribbean/Latin American Action (CLAA) is a nonprofit private organization that promotes private sector-oriented economic development in countries of the Caribbean and Latin America. Its objectives are to serve as a catalyst to stimulate and facilitate external trade and investment; strengthen and assist local private sector institutions in the region, and promote sound public policies, on the part of the U.S. and regional governments. It is governed by an international Board of Trustees made up primarily of business leaders from the US, Caribbean and Latin America, with significant telecommunications business representation. Thus, CLAA has a particular interest in the application of telecommunications technologies for the region's development. CLAA is acting as a coordinator for the InterAmerican Development Bank's Informatics 2000 initiative for the health and agricultural task forces.

CLAA has played an active role in engaging the business community in the move towards a Free Trade Area of the Americas (FTAA) by serving as a vehicle for private sector input at each of the FTAA meetings, including the Summit of the Americas and subsequent business forum meetings. CLAA facilitated the development of a working paper prepared by the private sector which recommends an ambitious set of policy objectives (ranging from taxes, tariffs, standards and non-tariff barriers, customs procedures and rules of origin, subsidies, antidumping and countervailing duties, competition policy, intellectual property rights, investment, infrastructure, and role of the private sector) as a prelude to achieving the Free Trade Area of the Americas. The Internet was used extensively to develop, disseminate, invite comment and revise this set of wide ranging policy recommendations. The paper can be found on the world wide web today.⁵²

http://www.itaa.org/witsa.htm

CLAA has also launched an ambitious Internet-based agricultural information acquisition and delivery system which incorporates private and public information within an index searchable across product, time, country, and other categories. AgroInfo Americas is expected to provide the technical tools which farmers, companies, academics or government officials need to host and maintain information in a way which is most effectively accessed by a target audience, regardless of hardware, software and computing skill levels. It is being implemented with the assistance of the Texas Agricultural Market Research Center at Texas A&M University and the InterAmerican Institute for Cooperation in Agriculture, initially in Honduras and El Salvador. (USAID has granted CLAA funds to make the system functional in El Salvador.)

The AgroInfo Americas information system will contain a research database (central repository of reports, manuscripts and data from research activities in the Americas), agricultural data (agricultural market supply, demand, trade and price information); statistical analysis capabilities; an industrial database (of producers, agribusiness's and industry associations); a trade and tariff database; a policy database (of agricultural policy information in which government representatives can update and change policy information through password protected access to the server); a contact database with a central point of communications for producers and industry representatives; an agribusiness calendar; a discussion forum to facilitate producer and industry communications by subject; and agricultural links. CLAA hopes that this initiative could help facilitate the development of a Free Trade Agreement for the Americas.

V. IREX is a nonprofit organization founded in 1968 to administer academic exchanges between the United States and the Soviet Union. IREX has expanded to encompass professional training, institution-building, technical assistance, and policy programs with the Newly Independent States, Central and Eastern Europe, Mongolia and China.

Why have such a program? In their words: "Access to email, Internet, and the resources of the World Wide Web helps NIS citizens, who are engaged in consolidating the transition to demo-cracy, free markets, and the building of a civil society in their countries, to keep current and connected in their fields, obtain new academic information about their

letters and journals, and continue colla-

borative projects with U.S. and NIS counterparts."

institutions, publish articles, news-

The U.S. Information Agency and IREX launched

the Internet Access and Training Program in December, 1995.⁵³ It is a U.S. - NIS public - private sector partnership which promotes academic and professional

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http://info.irex.org/progs/Internet./index.htm

exchanges in the information age by providing sustainable access to and training in email, Internet, and World Wide Web for alumni of USIA and U.S. government sponsored programs (including the Fullbright, Muskie Fellowship, Regional Scholar Exchange, Freedom Support Act, and International Visitors Programs). Public access Internet sites were established at 25 universities and libraries in the Russian Federation, Kazakstan, Kyrgyzstan, Ukraine, and Uzbekistan. There are 14 American Internet fellows in the 14 regions across the Newly Independent States involved with this program. The program is expected to expand into Armenia, Azerbaijan, Belarus, Georgia and Moldova shortly. The interns hired local nationals as the actual Internet trainers.

IREX is exploring distance education right now. There will be distance education conference in Russia. Distance education is the next logical step for IREX, but there are infrastructural limitations now, such as bandwidth problems both in Russia as well as the US

W. International Tax and Investment Center (ITIC) helps formulate tax and investment codes in Moscow, and Almaty. They have local offices there with local staffs only. Technical backup is provided in Washington, Palo Alto (Stanford) and London (UK). The Internet is used for the foreign experts to send their reports to the local nationals who then translate and lobby for tax and investment reforms. It is a low-cost, quick-response operation. For example, an investment expert at the Hoover Institute at Stanford University is helping review tax codes for Almaty. ITIC also has backstopping capabilities in petroleum economics from the University of Aberdeen in Scotland, which is helping the Kazaks formulate appropriate investment codes for oil/gas. ITIC is not involved now in distance education ,but sees a value in this; for example training the 200,000 Russian tax inspectors in their new tax rules. ITIC receives support from the EurAsia Foundation.

X. CASE STUDIES. As mentioned earlier, the study found six Internet development applications particularly important for strengthening economic policy reform programs. These development applications are economic research and analysis, public transparency and advocacy, professional networking, institutional networking, distance technical assistance, and distance education. Therefore, these applications are analyzed with respect to how useful and cost effective they have been, what are common attributes of success or failure, and their potential usefulness as USAID models.

Aside from these six applications, four additional case studies are included. The first will examine programs which seek to expand access and ability to master Internet technologies, for without the ability to log on and navigate on-line, the applications are of limited value. The second will review experiments/pilot projects which seek to innovate and learn how best to utilize information technologies to achieve development goals. This second case is important because innovation is essential in the new global information age. The third case study will examine how the Internet can be an effective tool for regional economic policy strengthening. This special case is reviewed because a number of regional approaches to Internet applications are being carried out. The final, fourth case, looks at how the Internet is used as a tool for business facilitation and how this approach also contributes to economic policy strengthening.

These case studies are offered with humility. First, Internet services are just beginning to be offered in USAID countries so there has been very little time to test development applications, especially in the area of economic policy strengthening. Secondly, there have been very few evaluations to draw upon. Thirdly, this study was carried out through interviews and literature reviews; it did not have the time or resources necessary to collect primary data nor examine particular programs in great depth. Finally, the methodology for evaluating Internet technology programs is just now being understood. In fact, at the multi-donor GK-97 conference in Toronto, some preliminary indicators for measuring Internet impact were offered, but there is no consensus among professionals on how best to evaluate such programs.

A. Economic Research and Analysis. The following programs were examined: (i) USAID/Moscow's Russian Longitudinal Monitoring Survey; (ii) the World Bank's Briefing Book for Africa; (iii) the International Food Policy Research Institute's gender research; (iv) Michigan State University's agricultural economics research in Africa; (v) the Caribbean Latin American Action plans for AgroInfo Americas.; and (vi) several efforts to connect economic researchers around the world. Of these six programs, the World Bank and CLAA programs are only in the planning stage, but there is experience to draw on from the others.

Usefulness. Collection of reliable and current information is a prerequisite to sound economic policy analysis and policy formulation. The Internet has a vast array of

information pertaining to economic prices, markets and institutions; as we have seen from the review of resources for economists on the Internet, from the compilation of resources made by Michigan State University, and from the data published on the Internet from American and international public institutions. The Internet also has software that can be downloaded for statistical analysis, as well as on-line training courses in how to use these software statistical packages.

Equally important, the Internet allows economic researchers and analysts to dialogue with one another. We have seen that the International Food Policy Research Institute has virtual discussions on important field research topics. The virtual discussions themselves can be a source of information when they reach people who normally would not be included. The Internet also facilitates cross-border research studies, as has been used in eastern and southern Africa with the TRADENET initiative.

New technologies are being advanced which allow a degree of interactivity with databases which should benefit researchers. Examples of this are found with the World Bank African Briefing Book and the CLAA plans with Texas A&M college to develop interactive agricultural production and trade data across Latin America and the Caribbean. When perfected, they should provide new tools to improve the management and utility of economic databases.

The Russian Longitudinal Monitoring Survey is particularly interesting in that it opens up research even further, allowing independent researchers to question the shape and health of the Russian economy and to develop new and original insights. This broadens research efforts and makes the findings that much more credible in the larger community. In a country as geographically large as Russia, it is hard to envision effectively doing dispersed research in the absence of Internet technologies which allow users to pass information and files across great distances with relative ease and amazing speed.

Cost Effectiveness. In an open and competitive telecommunications market, accessing information on the Internet is clearly more efficient than physical library searches, and necessary travel and mailing costs. The ability to dialogue and conduct cross border economic research also realizes considerable cost savings when the Internet is available. The initial costs associated with developing interactive databases on the Internet as the World Bank and Texas A&M plan may be relatively expensive, but successive users should benefit from cost reductions as the financial burden of new technological applications are shared.

Common Attributes of Success or Failure. The utility of the Internet as a economic research tool seems to be widely accepted, providing the researcher is schooled in how to search the Internet and distinguish between serious and questionable data. The Internet also seems to be a successful tool for collaborative economic research, whether

studying cross border trade in East Africa or looking at global gender issues, assuming that the participating parties share a mutual interest in making the research endeavor successful.

The Longitudinal Monitoring Survey in Russia learned that placing materials on the web should be followed up by making certain that decision-makers have web access and the appropriate software to download what is on the web. Another lesson USAID/Moscow learned is that one should not assume that materials in Russian can be read by all due to software incompatibility. These technical caveats are addressed further in the case study of accessing and using the Internet.

Potential USAID Model. Using the Internet as an economic research and analysis tool is largely taking place in the USAID world. The Center for Economic Growth, in fact, has contracted out searching for information on the Internet for USAID's internal needs. USAID development projects which seek to strengthen economic policy capacities in developing countries and transitional societies should, as a matter of course, include both Internet access and instruction as an important element of these programs.

B. Public Transparency and Advocacy. In examining the Internet as a tool for public transparency and advocacy, the following programs are drawn upon: (i) Several USAID projects including economic law/procurement system reform in Indonesia, economic reform in Sri Lanka, privatization in Morocco and Kazakstan, and numerous programs in the Philippines; (ii) MIGA's planned Privatization Link; (iii) the International Monetary Fund's Special Data Dissemination Standards program; (iv) UNCTAD's TradePoints program; (v) National Telecommunication and Information Agency's work in the Asia Pacific; (vi) the Institute for Agriculture and Trade Policy activities to influence international agricultural agreements; (vii) Transparency International's campaign against corruption; and (viii) the World Information Technology and Services Alliance lobbying efforts.

Usefulness. Transparency is important for an informed public to know what economic policies govern their behavior while advocacy is critical for the public to lobby for needed economic policy reforms. Communications are critical to achieving both ends and the Internet <u>may</u> be an effective means for such communications. The caveat is that the effectiveness of the Internet as a tool for public transparency and advocacy depends on what audiences one wishes to reach given today's uneven access and use of the Internet in USAID countries. Several examples illustrate how the Internet is useful, even with the limitation of today's connectivity.

Policies Aimed at International Financial and Business Communities. The IMF Special Data Dissemination Standards seek to inform the international financial community about the financial position of countries which may seek private international

financial support. The Internet allows for instantaneous access to such information, and this transparency and timeliness encourages potential borrowers to keep their macroeconomic financial accounting within international norms. MIGA's proposed Privatization Link seeks to attract international investment in privatization opportunities but will also indirectly encourage countries seeking privatization funds to have policies and incentives which are globally competitive. Again, Internet connectivity today is sufficient to reach those most able and interested in investing in privatization. The experience of NTIA in working to coordinate telecommunications policies in the Asia Pacific is perhaps most instructive on the power of the Internet to force both clarity of national economic policies and competitiveness across national boundaries.

Policies Aimed at International NGOs. Access to the Internet is uneven among international NGOs. For example, the Institute for Agriculture and Trade Policy reports that only half of their international partners now have some Internet capability. Yet, even with this limited connectivity, IATP reports that the Internet is an essential tool for affecting international policy change. Other NGOs, such as the World Information Technology and Services Alliance, are better able to communicate and pass position papers and files across to their international information technology partners to affect international telecommunications policies. By its very name, Transparency International argues for the importance of public information to eliminate corrupt business practices globally. The Internet is able to articulate and put material on a sensitive issue such as corruption before the global community. At the same time, the usefulness of the Internet to affect change at the local level is diminished by the uneven access to this medium in many countries where Transparency International seeks change.

Policies Aimed at National Publics. The Internet is not a communications tool to reach large audiences in most USAID countries. At best it is effective for networking among the local NGO communities, reaching government officials, and business groups. Several USAID projects including economic law/procurement system reform in Indonesia, economic reform in Sri Lanka, and privatization in Morocco and Kazakstan have used the Internet to reach such audiences. UNCTAD's TradePoints program seeks to reach local governments and business communities as its audience. Yet particularly within national boundaries, there are also other ways of communicating and reaching larger audiences such as the press, radio and television.

At the same time, the Internet has been considered a valuable supplementary tool in many USAID programs. In the Philippines, for example, the Internet has been used extensively to convey information associated with economic policy programs. The Mission has found, however, that too much attention was paid to putting up impressive and sophisticated websites, that could not be maintained nor updated. The lesson learned is that one should select an audience, limit information, and have a quick response capability to public inquiries. Because of limited reliability and quality of telecommunications

infrastructure, graphics should be simple, using text to the maximum extent possible. "Heavy graphics takes forever to download in the Philippines", according to USAID/Manila.

Cost Effectiveness. In an open and competitive telecommunications market, communicating and passing files and information via email and the Internet is clearly less expensive than other means of communication, particularly on an international basis. On a national level, competing means of communications (such as radio, television and newsprint) might reach broader audiences, but the Internet, given its relatively low cost, might be a complimentary tool. In fact, one can consider combining Internet with radio and other mass media channels. USAID/Mali has, creatively, pulled information off the Internet and passed it on to national radio stations for broader information dissemination.

Common Attributes of Success or Failure. The utility of the Internet as a communications tool for public advocacy and transparency, therefore, depends on one's targeted audience. On an international basis, the Internet appears to work quite well in information dissemination to sophisticated financial and business communities, and to a growing pool of international NGOs. Locally, the trade-offs between using the Internet and other communication tools need to be examined; quite often it could provide a supplementary channel for public transparency and advocacy. In any case, one must carefully examine Internet access and use before relying solely on the Internet for local public advocacy and transparency.

Potential USAID Model. Groups like WITSA, IATP and Transparency International all use the Internet as an effective tool to strengthen international economic policies. USAID might work with like-minded American NGO partners to devise and implement Internet-based applications which strengthen particular global economic policies. For example, USAID might work with and develop partnerships in launching an Internet-based campaign to increase international understanding and support for greater intellectual property rights protection.

C. Professional Networking In studying the Internet as a tool for professional networking, we will draw on the following programs: (i) USAID's TradeNet program in East/Southern Africa; (ii) The World Bank's TechNet program; (iii) the International Food Policy Research Institute's gender discussion groups; (iv) the U.S. Information Agency and IREX post-international exchange initiatives; (v) the Eurasia Foundation's Economics Education and Research Consortium which seeks to build a professional community of Russian economists; (vi) Soros Foundation Open Society Institute; (vii) the Persian Gulf Project at Columbia University; and (viii) the Center for International Private Enterprise Forum on Economic Freedom.

Usefulness. Working in isolation of one's peers in the global information age can quickly lead to obsolescence. The ability of economic policy analysts and program managers to exchange news and views, collaborate on joint projects, and just stay current in a dynamic global economy is important for sound economic policy formulation and execution. The Internet itself is a networking tool and therefore is ideally suited for professional networking. New and evolving Internet technologies (e.g. teleconferencing over the Internet) will make professional networking over the Internet even more effective in the years ahead.

Much of the professional networking on the Internet appears to take place among donor officials, academics, and professional consultants and researchers. Monitoring the TechNet discussion on the South Pacific Islands, as well as a "DevFinance" UseNet group devoted to microfinance programs, confirmed the preponderance of developed world participation, and the scarcity of developing countries and transitional societies participation. This is a reflection of both access to the Internet, as well as language and cultural barriers due to the largely English language discussion groups and the distinct American flavor of such discussions. In any case, the benefits accrue directly to the donor community and only indirectly to the developing country beneficiaries.

Over time, we expect participation to become broader, particularly with the number of ongoing initiatives to extend Internet access and professional networking in developing countries and transitional societies. The U.S. Information Agency and IREX are already implementing programs to improve Internet access among U.S. exchange program alumni, specifically to ensure continuing professional networking opportunities between American and host country colleagues. Internet access oftentimes is through a public Internet node, not an individual one for each alumni. The Soros Foundation Open Society Institute, the Canadian IDRC and other donors and nongovernment organizations are setting up mechanisms for Internet-based professional exchanges. USAID's Leland Initiative is leading efforts to provide basic Internet access in Africa.

The benefits from professional networking over the Internet will be greatly enhanced when there is more balanced participation. However, not all networking need cross national boundaries. Eurasia's Economics Education and Research Consortium seeks to strengthen relationships among Russian economists.

Professional exchanges can take place through large communities of interest, such as virtual conferences or ongoing discussion groups. Internet enthusiasts often cite the ability of a virtual conference to draw in larger and more diverse participants than would be feasible at physical meetings. Experience from the programs reviewed indicate that such events need both structure and moderation. The TechNet "think tanks" and the IFPRI gender discussions benefited from respected moderators, commissioned papers, and a structure which summarizes and disseminates conclusions

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reached. The development finance newsgroup is considered to be one of the more enduring and serious newsgroups, due in large part to the moderation by a respected development finance professional. The TradeNet program for East and Southern Africa benefited from structure and leadership provided by USAID.

The Columbia University Persian Gulf Project provides a distinct counterpoint to the above discussions which were open to all who wanted to participate and contribute. In this case, discussion is severely restricted and kept confidential. Part of the draw of this Project, in fact, is its elitism. While values might suggest that the open approach is the superior one, there may be situations where the Persian Gulf model might be more suitable to a particular economic policy reform agenda. For example, an attempt to strengthen emerging markets stock markets might suggest establishing a professional network among the heads of emerging market exchanges. Their participation, however, would likely be more forthcoming if there were clear limitations on participation in such a discussion group.

The CIPE program offers a more passive approach to professional networking. Their electronic forum allows reviewers of published articles on economic policy reform to question and engage the authors, all on-line.

Cost Effectiveness. As discussed previously, any analysis of cost effectiveness needs to factor in whether one is working in an open and competitive telecommunications market or not. Assuming reasonable market prices, professional networking over the Internet will be vastly cheaper than the costs associated with physical conferences, considering the costs of airfares, hotels and perdiem.

Common Attributes of Success or Failure. Professional networking will work best when there is a balanced participation and not just a situation of donors speaking with each other. Professional networking among mid-sized or larger groups requires structure, such as a respected moderator, background or research papers to focus discussions, and a summary and dissemination of conclusions reached. The degree of openness of such networks is situational, depending on what one is trying to achieve in terms of economic policy strengthening.

Potential USAID Model. USAID has a deliberate program of professional networking among economic researchers and policy makers in Africa. The EurAsia Foundation has similar objectives in connecting Russian economists. In those circumstances, opportunities for professional networking over the Internet should be maximized.

Decisions with respect to economic policy reform programs are largely made at the field level, resulting in an array of policy measures and institutions being strengthened. Cross fertilization between country programs is limited due to decentralized management. The Internet could be an excellent vehicle for fostering collaboration among common USAID policy reform programs in differing countries and regions.

CIPE has an interesting model of allowing interaction between policy research paper authors and the readership. The Center for Economic Growth should consider electronic publishing of some of papers it generates and then allowing for interaction with readership. The Center for Economic Growth might also wish to try a TechNet approach to inviting more prolonged discussion of some of these papers by a larger audience.

Twenty eight percent of all USAID participants study business or free market economics. Following the USIS-IREX approach, USAID should consider building continuing professional linkages, via the Internet, after participants return home.

D. Institutional Networking. Although similar to professional networking, those programs which network organizations which strengthen economic policies are reviewed now: (i) USAID programs which link business associations in West and East/Southern Africa; (ii) donor coordination efforts for Russia and Ethiopia; (iii) the U.S. Foreign Agriculture Service's program to link cooperators virtually with a focus on overseas markets; (iv) the Soros Open Society Institute CEENET program to link academic and research institutions in Europe; and (v) the International Center for Economic Growth's plans to link global free-market think tanks. This study also found other examples of institutional networking that were oriented towards public advocacy: The Institute for Agriculture and Trade Policy and Transparency International.

Usefulness. Institutions need to remain as current on global economic conditions and thinking as do individual economic policy analysts and program managers. Institutions grow stronger by having international partnerships; thereby strengthening economic policy reform efforts. Particularly in today's global economy, international institutional relationships are critical. The Internet, itself a networking tool, can facilitate institutional linkages.

The individual business associations in West Africa gained strength by joining the West African Entrepreneurs Network; as do business associations in the other end of the continent which joined the East and Southern Africa Business Organization. Particularly since businesses in both regions want to encourage intra-African trade, there is self-interest in working as part of a larger force for change, and the Internet facilitates international advocacy efforts as we have seen earlier.

Economic research organizations also see value in international collaboration, for professional reasons and because many of the reforms they seek have been tried elsewhere. Thus the International Center for Economic Growth and the Central and East European CEENET programs are using or planning to use the Internet to create virtual partnerships.

Donors have long sought to improve the coordination of their foreign assistance programs, and developing countries have equally long sought to direct the programs donors provide. In the case of Russia and Ethiopia we have two examples of institutions seeing the Internet as a tool to strengthening coordination. The U.S. Foreign Agriculture Service also sees the Internet as a tool for coordinating efforts and has therefore established a program with U.S. agribusiness associations to develop linked web pages in their continuing campaign to open foreign markets to U.S. agricultural commodities.

Cost Effectiveness. As discussed previously, any analysis of cost effectiveness needs to factor in whether one is working in an open and competitive telecommunications market or not. Assuming reasonable market prices, institutional networking over the Internet will be vastly cheaper than the costs associated with physical conferences, considering the costs of airfares, hotels and perdiem.

Common Attributes of Success or Failure. Institutional networking works best when the organizations have a common agenda and mutual interest to collaborate. In such instances, the Internet can be an effective tool in facilitating joint endeavors. If that mutual interest is absent, the Internet is as ineffective a tool as any other. Given the elusiveness of donor coordination in the past, it will remain to be seen if the Internet actually results in greater complimentarity of foreign aid programs.

Potential USAID Model. USAID has a deliberate program of institutional networking among business associations in Africa. USAID has similar economic policy objectives across Eastern and Central Europe with the CEENET program. In those circumstances, opportunities for institutional networking over the Internet should be maximized.

Decisions with respect to economic policy reform programs are largely made at the field level, resulting in an array of policy measures and institutions being strengthened. Cross fertilization between country programs is limited. The Internet could be an excellent vehicle for fostering collaboration among common USAID policy reform organizations in differing countries and regions.

E. Distance Technical Assistance. The following programs surveyed provide or plan to provide at least some technical services via the Internet: (i) U.S. Securities and Exchange Commission; (ii) International Tax and Investment Center; (iii) Institutional Reform and the Informal Sector; (iv) International Center for Economic Growth; and (v) Nathan and Associates.

Usefulness. Economic policy reform programs often require short-term specialized assistance; which is normally expensive when the costs associated with travel, per diem and lost time are factored in. Such programs often have needs for technical

services at very specific periods of time when time delays are unacceptable. The Internet can be a tool to deliver these services; on-line through email and file transfers. Over time, Internet -based teleconferencing technologies will be another way to deliver these services.

Of the programs surveyed, the International Tax and Investment Center is the only institution where distance technical assistance is the sole delivery mechanism. However, ITIC maintains local offices with local nationals in host countries to ensure that the distance technical assistance is effectively used. The IRIS, ICEG and Nathan programs all incorporate distance technical assistance to supplement services that are provided in person. The SEC is considering using a combination of an enhanced web page with numerous electronic reports and an ability for readers to interact with SEC officials as a new mechanism for strengthening capital markets regulation in emerging markets.

Cost Effectiveness. Again, assuming Internet access and reasonable local Internet service provider prices, the attractiveness of distance technical assistance derives in large part by costs savings. Its effectiveness also allows highly qualified professionals to be in more than one place at one time. For example, one of the world's leading experts in private power investment policies could advise several countries at one time if he/she were able to work virtually, as opposed to the need to travel separately to several countries.

Common Attributes of Success and Failure. Delivery of technical services via the Internet seems to be effective when groundwork has been laid. ITIC has local staff to ensure a receptive audience and to follow-up as necessary. The other programs benefited from either local staff or long-term relationships developed from earlier physical visits. Except for highly unusual circumstances, there will remain the need for a human touch, but supplementary delivery of services over the Internet is clearly feasible.

Potential USAID Model. Distance technical assistance over the Internet allows USAID to think more creatively about technical services. It should now be possible to reach and deliver technical services from individuals and institutions which until now were unable to devote the time required for overseas trips. The idea of working with the SEC and reaching into their institutional knowledgebase via the Internet is an excellent one and could perhaps be extended to other institutions, but will need careful thought on how to structure and account for the services rendered.

F. Distance Education. The following programs surveyed provide or plan to provide at least some distance learning via the Internet: (i) USAID staff training in development studies and core competency skills; (ii) various World Bank economics training for Moscow State University and other Russian universities, a business service center, and regular EDI courses; (iii) IMF training in general economic analysis, design

of adjustment programs and statistical analysis; and (iv) Barents Group microfinance and Russian bankers training. In addition, Michigan State University is considering the development of an Internet-based graduate agricultural economics/ food policy program geared to an Africa audience.

Usefulness. Education and training are often elements of economic policy strengthening programs, and 28% of all USAID training relates to business or free market economics. Distance education offers a number of advantages over more traditional instructor-based training: (i) it is less expensive on a per student basis, especially when foreign instructors are utilized; (ii) it can be more effective as a training tool allowing for customized instruction which is difficult in a classroom with students of varying backgrounds and skills; (iii) it can reach more students, particularly given time constraints of foreign instructors; and (iv) it permits participants to continue with their ongoing responsibilities and is therefore less disruptive. The Internet allows training on demand, and speeds up delivery which previously depended on "snail mail". Over time, as more sophisticated technologies such as teleconferencing become more common, the Internet will become an even more effective training vehicle.

The World Bank's programs seem to be well advanced of other donors. USAID is just now beginning to develop Internet-based training in subjects associated with economic growth. There is little experience to draw further conclusions than to observe that the opportunities seem immense.

Cost Effectiveness. As noted above, distance learning over the Internet can be a very effective means for education, assuming again reasonable Internet access and reliability. At the same time, the costs of developing electronic, multimedia education programs can be high. One therefore would need assurances of a sufficient number of students to ensure that a distance education approach is truly cost effective.

Common Attributes of Success and Failure. There has been too little experience to draw any meaningful conclusions. The World Bank has had positive experiences with distance learning and is expanding the range of its economic training offerings. However, some USAID officers perceive limitations with distance education: (a) The view that distance education cannot substitute for observing the dynamism of a free market first-hand; and (b) the view that U.S. training is, to some extent, a reward to counterparts, the value of which would be greatly diminished by USAID offering a trip to a computer terminal, as opposed to the United States.

Potential USAID Model. USAID might consider helping defray the costs of U.S. educational institutions developing Internet-based distance learning in fields of economic policy strengthening of particular relevance to USAID programs. After the courses are developed, the U.S. institutions would market them to developing countries;

thereby maintaining the preeminence of America as a destination for education, but in this case the destination is cyberspace.

G. Access to and Mastery of the Internet. A number of assistance programs seek to address the connectivity problem. Chief among them are: (i) USAID's Leland Initiative for Africa; (ii) the UNDP's Sustainable Development Networking Programme; (iii) EurAsia Foundation activities that help isolated regions of the former Soviet Union obtain Internet access; (iv) much of the work of the Soros Open Society Institute's Internet Program; (v) select activities of the Canadian International Development Research Center and the BellaNet Initiative; and (vi) the CIPE program to strengthen Russian Chambers of Commerce through information and telecommunications technologies.

Usefulness. The rationale for supporting activities which connect economic reformers and reform institutions to the Internet are fairly clear and compelling: The value of the development applications of the Internet cannot be realized if counterparts are unable to access the Internet or are unschooled in how to utilize these new technologies. At times, donors have assumed both a level of connectivity and an ability to navigate once on-line that just wasn't correct (as illustrated earlier by USAID/Moscow's experience with its longitudinal survey).

Three approaches to Internet connectivity seem to prevail. The first approach is being followed by the Leland Initiative in Africa, the UNDP's SDNP program, the Soros Open Society Institute in Central and Eastern Europe and the former Soviet Union, and the EurAsia Foundation program to connect NGOs in the Sakhalin Islands. These programs believe in the inherent value and benefits that accrue from the Internet, so focus first and foremost on obtaining Internet service, and at reasonable prices. The Leland Initiative (rightly) sees the problem being primarily one of statist telecommunications policies so seeks to create an enabling environment for private and competitive Internet service. After this enabling environment is created, the Leland Initiative looks for Internet-based development applications to support larger USAID strategic objectives.

The second approach ties Internet access with specific development objectives. Both IDRC and BellaNet appear to work at both ends of this spectrum simultaneously. The Rockefeller Foundation programs in Africa include elements to tie grantees into the Internet and the World Wide Web. Individual USAID missions have added Internet elements into select projects where it was felt that connectivity would benefit the larger objectives. The CIPE case study describing its working with Russian Chambers of Commerce suggests the need for and challenges faced in this approach.

The third approach basically ignores the Internet when designing and implementing economic policy reform programs. Even if the narrow definitions of economic policy objectives can be shown to be achievable without utilizing international electronic connectivity, one could argue that long-term sustainability might be jeopardized without some assurances that connectivity will follow and that there are economic policy managers who understand how to navigate the Internet.

Cost Effectiveness. Incorporating Internet connectivity and capabilities into economic policy programs are cost effective, assuming competitive markets. Even if particular countries have statist telecommunications policies and high present-day prices, it still might make sense to incorporate Internet connectivity and training, with a view of the long run when a more deregulated environment might exist.

Common Attributes of Success and Failure. The third approach of ignoring Internet connectivity and capabilities when designing and implementing economic policy programs seems doomed over the long run. The second approach of designing in the Internet as a tool for achieving higher level objectives has been successfully employed in a number of USAID and other donor projects. The first approach sees inherent value in opening societies and economies to the information age and so does not measure its success in terms of more narrow economic policy reforms.

Potential USAID Model. USAID might develop guidelines for program designers on how to incorporate the Internet into ongoing and planned economic policy interventions. The Leland Initiative has developed an approach to assessing whether development institutions are ready to utilize Internet technologies, and this assessment technique might be incorporated into the suggested guidelines. Six indicators are used to help determine the readiness of an institution to make strategic use of the Internet to support development objectives: (a) institutional information and communications strategy; (b) an institution's information use; (c) recognition of the potential contribution of the Internet to the institution's mission; (d) the existence of a champion in the institution; (e) the availability of telecommunications and computer infrastructure; and (f) the potential for sustainability.

H. Experimentation and Pilot Projects. Several donors have launched programs which provide funds to experiment with innovative approaches to the application of Internet technologies to development. Among them are: (a) the World Bank's InfoDev Program; (b) the IDRC and multi-donor BellaNet program; and (c) the new UNDP information and communications technologies project with distance education, telemedicine, telebanking and civil society pilot projects.

Usefulness. We are entering a fundamentally new global information age where traditional approaches to foreign aid administration may not be the most effective or relevant. Thus, a case can be made for pilot projects to test new approaches out. This is what the three donor programs noted above are seeking to do. Both InfoDev and BellaNet accept proposals from organizations besides their own, so appear open to new

ideas. The BellaNet initiative is particularly strong on testing and measuring results and developing new methodologies for assessing information and communication technology projects.

Cost Effectiveness. Pilot projects which are set up to measure results and learn from experience are much more effective than embarking on new initiatives with little experience to indicate how to proceed. Pilots become even more cost effective if development partners contribute their own funds in a cofinancing arrangement.

Common Attributes of Success or Failure. Pilot projects only fail if their managers don't learn from mistakes and don't disseminate lessons learned widely. All three donor initiatives use the Internet extensively to publish what they are doing and what seems to work.

Potential USAID Model. USAID might want to consider establishing a modest Economic Growth Internet Fund which would encourage innovation among USAID program managers and partners striving to strengthen economic policies in developing countries and transitional societies. Drawing on the other donor models, one would need to clearly establish a methodology for measuring success or failure, and one would also want to see contributions from the other partners to demonstrate their commitment. The Fund could focus on particular Internet development applications (e.g. distance education) or it could focus on a particular set of economic policies (e.g. strengthening banking regulations).

I. Regional Approaches. The following Internet applications will be examined in the context of regional approaches to economic policy reform: (a) USAID's Leland Initiative for Africa; (b) USAID's economic research and business association networking in West and East/Southern Africa; (c) the InterAmerican Development Bank's Informatics 2000 program; (d) the Caribbean Latin American Action AgroInfo Americas program; and (e) the Soros Foundation CEENET program for connecting academic and research institutions in Central and Eastern Europe.

Usefulness. Due to common history, culture, language and present socio-economic-political circumstances, both developing countries and industrial donors have often approached development from a regional perspective. Some of these programs have addressed common weaknesses in national and regional economic policies. USAID has followed regional approaches at times in Africa, in Central and Eastern Europe, in Central Asia, the former Soviet Union, and to some extent in Latin America. The Internet and its development applications are particularly well suited to serve as a tool for effective regional collaboration.

Three basic approaches to regional economic growth are identified from the programs reviewed in this study. The first, again, is the Leland Initiative which values Internet connectivity for its own sake. The second approach is to view the Internet as an information and telecommunications tool for achieving higher-level regional economic growth as is being used in the Informatics 2000 and AgroInfo programs. The third approach is to view the Internet as a tool to link regional economic organizations, such as CEENET and USAID's networking of economic research and business organizations in Africa.

The InterAmerican Development Bank has launched Informatics 2000 by examining the challenges and opportunities facing various sectors in the new information age. The example provided for the banking sector illustrates that their approach begins with a larger vision and examines how the Internet and related technologies can help transform Latin America's banking institutions. CLAA has also launched an ambitious Internet-based information acquisition and delivery system known as AgroInfo Americas which incorporates private and public information to facilitate Latin American agricultural production and trade. CLAA hopes that this initiative will help facilitate the development of a Free Trade Agreement for the Americas, a larger economic policy objective.

The third approach is to use the Internet to link economic policy organizations in the region, be they economic research institutions, business associations, or universities and let them define and implement a common agenda. The key to effectiveness is whether these institutions will use the Internet for their own individual priorities or whether they attach sufficient weight to a common regional one.

Internet-based development applications are useful in strengthening regional economic policies. While three approaches are being offered, it would appear that the soundest approach places the Internet within a larger regional economic policy framework. If regional economic institutions have a mutual interest in collaborating (as business associations in Africa do in order to reduce barriers to African trade), then the Internet should also prove to be an effective tool in that context.

Cost Effectiveness. Incorporating Internet development applications within regional economic growth programs are cost effective, assuming competitive markets. Even if particular countries have statist telecommunications policies and high present-day prices, it still might make sense to incorporate Internet connectivity and training, with a view of the long run when a more deregulated environment might exist.

Common Attributes of Success and Failure. It is too early to comment on this at this time. The AgroInfo Americas and Informatics 2000 programs are just beginning.

Potential USAID Model. The Informatics 2000 model is an interesting one with potential for USAID replication. The formation of task forces of leaders in particular sectors to examine approaches for the successful incorporation of Internet technologies to strengthen economic policies, programs and institutions and thereby accelerate economic growth in those sectors gives focus and structure to Internet interventions. In fact, one could expand the concept to a global one. For example, a task force examining the implications of the information age on agribusiness in developing countries could lead to an action agenda whereby Internet technologies can serve as a tool for the successful transformation of agricultural businesses in USAID countries.

J. Internet Business Services as a Tool for Policy Reform. By far, the most frequent use of the Internet within the development context is to facilitate private trade and investment. Among the programs examined were: (i) USAID's support for business associations in Africa; (ii) select USAID projects for export and investment promotion in Ghana, Morocco, the Philippines, Russia, Bulgaria, Honduras and elsewhere; (iii) IFC's Africa Business Network; (iv) MIGA's IPANet and new Privatization Link; (iv) the InterAmerican Development Bank's Informatics 2000; and (v) UNCTAD's TradePoints program. Beyond these programs, there are numerous other public and private Internet based programs which seek to facilitate international trade and investment.

Usefulness. The number of independent donor programs and private sector startups which seek to utilize the Internet to facilitate trade and investment is ample evidence of the importance of information in the emerging global economy. Business associations in USAID countries are particularly interested in gaining Internet access because their members understand that competitiveness now depends on becoming part of the new information age. The Leland Initiative reports that business groups are among their greatest enthusiasts in Africa. USAID Missions in Latin America reported the same enthusiasm for the Internet among business groups. Russian Chambers of Commerce have similar motivations.

These business-oriented Internet programs also offer opportunities to influence economic policies. The transparency of information on the Internet permits users to compare economic policies across countries. The Internet permits business groups to lobby for economic policies in their own countries which are at least as attractive as those found in competitor countries. MIGA's IPANet now allows investment promotion boards around the world to compare their country's incentives package with others. MIGA's Privatization Link will allow potential foreign investors to compare opportunities to invest in state-owned enterprises around the world, and thereby indirectly influence the policies established in individual countries. UNCTAD's TradePoints program has reportedly resulted in positive economic policy changes in Senegal.

While international comparisons can be made within these business facilitation programs now, extracting and analyzing this information can be both difficult and tedious. For example, many business facilitation services will describe whether, how and under what terms a foreign investor can repatriate profits, but this information will appear within each country's database. One would therefore need to go through many countries before understanding which countries have the most favorable repatriation terms.

Cost Effectiveness. Establishing and maintaining up-to-date databases of international business opportunities and market developments can be expensive. There may be more direct means of strengthening economic policies. However, once these international databases and business services have already been established, there may be cost-effective ways of using these business services to make international economic policy comparisons more readily transparent, and then getting this information in front of policy makers.

Common Attributes of Success and Failure. Internet-based business facilitation has been underway as long as any other Internet application. Some anecdotes of how these Internet business facilitation programs have influenced economic policies are starting to appear. However, they seem more serendipitous than deliberate. Thus, it is difficult to identify common attributes of success and failure at this time.

Potential USAID Model. USAID could collaborate with these business facilitation services to inject an ability to make more explicit policy comparisons across countries, and then disseminate this information more directly to policy makers and those who influence policies. This more deliberate and direct attempt to strengthening economic policies could be a positive force for economic policy reform, particularly in those USAID countries seeking ways of becoming greater participants in the emerging global economy.

XI. CONCLUSIONS AND TENTATIVE APPROACHES.

- 1. Despite limited (but growing) access in developing countries and transitional societies, the Internet is beginning to serve as an effective development tool. While hard evidence of the power of the Internet to directly contribute to economic policy reform is scarce, there are enough examples to suggest significant potential.
- 2. USAID has taken a leadership position in expanding access to the Internet and application of the Internet to strengthening economic policies in Africa. While less prominent in other regions, there are individual USAID country programs and projects which are utilizing the Internet to support particular economic policies.

- 3. Within the larger donor community, the World Bank has taken the leadership role in examining the possibilities of the Internet and other information and communications technologies to accelerate economic and social development. Other multilaterals have devised Internet applications which help deliver their individual services, much of which directly or indirectly contributes to economic policy reform.
- 4. While there are some interesting examples in other U.S. Government agencies (particularly the National Telecommunications and Information Agency and U.S. Information Agency), by and large the rest of the federal government is not utilizing the Internet to engage developing countries in adopting liberalized economic policies.
- 5. Non Government Organizations offer great diversity of interest in and application of Internet technologies internationally. Some look for every opportunity to expand Internet access for its own sake, believing strongly that connectivity is essential in a new global information economy. Others marry their institution's economic policy objectives with that of the powers of the Internet quite effectively.
- 6. There are six development applications of the Internet which are particularly relevant to strengthening developing country economic policies:
- a. Economic Research and Analysis: Collection of current and reliable information is essential for sound economic policy analysis and formulation. The Internet has a wealth of information and analytical tools for sound economic research and analysis, an ability for professionals to dialogue and conduct joint research, and emerging technologies which allow for interactive database management. Training may be necessary to maximize use of the Internet as a research tool.
- b. Public Transparency and Advocacy. Transparency is important for an informed public and advocacy is important to lobby for change. The Internet <u>may</u> be an effective tool for transparency and advocacy, depending on the audience in today's uneven world of Internet access. Generally international financial, business and specialized NGOs have made very effective use of the Internet for transparency and advocacy. However, the Internet is not a communications tool to reach large audiences in most USAID countries so other means of communications may be more effective.
- c. Professional Networking. Economic policy analysts and program managers need to exchange news and views, collaborate on joint projects, and just stay current in this dynamic global economy. The Internet by its very nature is ideally suited for professional networking. However, much of the professional networking today is among the donor community. Broadening will occur as access and training expands. Virtual conferences and Internet newsgroups offer other opportunities for professional networking but work best in a structured environment.

- d. Institutional Networking. Institutions need to remain as current on global economic conditions and thinking as do individuals. Economic policy institutions, be they business associations, think-tanks or universities, can grow stronger by having international partnerships. Institutional networking works best when organizations have a common agenda and mutual interest. In such circumstances the Internet is a great tool for facilitating joint efforts. When the mutual interest is not present, the Internet can be as ineffective a tool as any other.
- e. Distance Technical Assistance. Economic policy reform programs often require short-term, expensive specialized technical assistance for very defined periods of time. The Internet can be a tool to deliver these services; on-line and on-time, through electronic mail and file transfers. The Internet can also provide greater access to the world's leading lights who might otherwise decline invitations for assignments which require several weeks of undivided attention. Laying the groundwork and having local support is important to ensuring the effectiveness of this approach.
- f. Distance Education. Education and training are often elements of successful economic policy strengthening programs. Indeed approximately 28% of all USAID training relates to business and free market economics. Distance education offers an alternative to traditional classrooms; with the potential to be cost-effective, to reach more students, and to be less disruptive to host country institutions. While Internet-based education is growing at an astounding pace in the United States, very little has been transferred back into USAID's training programs. At the same time, the World Bank has had positive experience and is expanding such efforts.

7. Beyond these development applications, four other case studies were examined:

- a. Access to and Mastery of the Internet. Benefits from Internet applications can't be realized if counterparts lack access or are unschooled in its use. In any case, the Internet remains a bumpy electronic frontier requiring constant attention to technical issues, even for relatively proficient counterparts. There are three views towards Internet connectivity within the donor community: The true believers who spare no efforts to connect counterparts, those who try to marry development objectives with Internet connectivity, and those who basically ignores the Internet. One could argue that long-term economic policy objectives are jeopardized without assurances that on-line connectivity will follow.
- b. Experimentation and Pilot Projects. As we enter a fundamentally new global information economy, traditional approaches to foreign aid administration need rethinking. Thus, a case can be made for pilot projects to test new approaches out. Several donors have launched programs which provide venture capital/pilot project funds to innovate on application of Internet technologies to development. Conceptual problems arise, however,

in measuring the real impact of information and communication technologies on development.

- c. Regional Approaches. Both developing countries and donors have often viewed economic growth from a regional perspective. Several Internet-based programs examined, in fact, follow regional approaches, but move in separate directions. The first focuses on extending Internet connectivity to the greatest degree possible, anywhere in the region. The second analyzes an economic growth constraint, such as poor financial services, and devises Internet and other interventions to substantially overcome those constraints, such as improved regional banking services. The third direction essentially seeks to maximize electronic linkages between regional economic institutions, from business groups to universities.
- d. Internet Business Services as a Tool for Policy Reform. The number of independent attempts to use the Internet to facilitate international trade and investment is ample evidence of the importance of information in the emerging global economy. Business groups are among the most enthusiastic supporters of the Internet for this reason. These business-oriented Internet programs also offer opportunities to influence economic policies, albeit indirectly. By permitting users to compare economic policies across national boundaries, whether these be policies on repatriation of profits or privatization for potential investors, the transparency of the Internet is a force for change.
- 8. The cost effectiveness of the Internet as a tool for economic policy reform is almost universally accepted -- provided one is working in a deregulated and competitive private telecommunications market. Regrettably in far too many USAID countries, the market is dominated by an inefficient government monopoly which uses international connections to subsidize domestic calls. In these circumstances, costs of using the Internet are prohibitively high, so Internet-based applications may not be cost-effective. One would then need to carefully examine the costs and benefits of utilizing the Internet for specific applications. In any case, over the long-run, host country counterparts and institutions will need to be proficient in the Internet if they are to progress in the new world economy.
- 9. The following are potential USAID models for utilizing the Internet to strengthen economic policies, as suggested by the survey and ten case studies. These are <u>tentative</u> approaches and will be reassessed as the remaining tasks to this Internet study are carried out.
- a. Because the Internet is such a powerful tool for economic research and analysis, USAID development projects which seek to strengthen economic policy capacities should routinely address both Internet access and instruction as important

elements in program design. USAID may wish to develop guidance on effectively using the Internet as a tool for economic research and analysis for its program managers.

- b. USAID might wish to consider an open solicitation to American NGO development partners, inviting them to submit proposals for the application of Internet technologies to strengthen USAID's economic policy strategic objectives. Their proposals would necessarily have to match Internet technologies with already articulated economic policy objectives of the Agency. Such a partnership assumes cost sharing during implementation. This could be viewed as a modest experimental fund, with contributions from both USAID/Washington and field missions.
- c. USAID might capitalize on the Internet's professional and institutional networking capabilities to cross fertilize common economic policy objectives across USAID country programs. Thus, if USAID is seeking to create bond markets in a number of countries, attempts should be made to electronically link the individual efforts and inject some structure so that mutual learning takes place. An argument could further be made that the professional and institutional connections might include other USAID countries, even recent graduates so that participating groups learn from more successful colleagues.
- d. USAID should consider more professional sharing of economic policy reform efforts. Papers produced by USAID staff, consultants and partners should be regularly posted on the Internet, and readers offered an opportunity to send questions and comments to the authors for an on-line dialogue. USAID might also want to consider a more formal virtual conferences on economic policy subjects of importance, but these should have some structure to them.
- e. USAID should build in opportunities for expanding Internet access and training to recent alumni of USAID economic policy training programs.
- f. A more deliberate use of Internet-based technical assistance should be built into USAID economic policy programs. This might make it possible to tap into intellectual and institutional resources which otherwise would be unavailable for USAID assignments. Virtual relationships should be encouraged, but thought also needs to be given to accounting for results.
- g. Maximum use should be made of distance education. A thorough review should take place of the economic policy training programs that are classroom based now, and look at possibilities of offering some on-line. USAID might consider sharing costs of digitizing these programs with the host institutions, and then let those training institutions market these on-line training programs more widely.

- h. USAID might wish to identify an economic policy constraint that Missions are identifying on either a regional or global basis. A task force of experts from both the sector involved as well as the telecommunications industry might then develop an action plan for strengthening economic policies, which might include Internet interventions.
- i. Several on-line business facilitation services might be approached about their interest in working with USAID to introduce a capability to compare specific economic policies across borders, and then pull this information out for policy makers in the more regulated markets to consider.

Attachment A: ACRONYMS

AAEA American Agricultural Economics Association ABN Africa Business Network Asian Development Bank ADB AEA American Economics Association **APEC** Asia Pacific Economic Community Central and Eastern European Network CEENET Consultative Group on International Agriculture Research CGIAR CIDA Canadian International Development Agency Center for International Private Enterprise CIPE CLAA Caribbean/Latin American Action DAC Development Assistance Committee EDI Economic Development Institute Economics Education and Research Consortium **EERC ERS** Economic Research Service **ESABO** Eastern and Southern Africa Business Organization FAS Foreign Agriculture Service

FTP File Transfer Protocol

FTAA

GK '97 Global Knowledge 97 Conference

HIID Harvard Institute for International Development

Free Trade Area of the Americas

IADB InterAmerican Development Bank

IATP Institute for Agriculture and Trade Policy
ICEG International Center for Economic Growth
IDRC International Development Research Center

IFC International Finance Corporation

IFPRI International Food Policy Research Institute

IIF Institute for International Finance IMF International Monetary Fund

INDIX International Network for Development Information Exchange

IESC International Executive Service Corps

IRIS Institutional Reform and the Informal Sector

ITA International Trade Administration

ITAA Information Technology Association of America

ITIC International Tax and Investment Center

IRC Internet Relay Chat
IRS Internal Revenue Service

ISNAR International Service for National Agricultural Research

ISP Internet Service Provider

LAC Latin America and the Caribbean

MIGA Multilateral Investment Guarantee Agency

MSU Michigan State University

NABE National Association of Business Economics

NGO Non Governmental Organization

NIS Newly Independent States

NTIA National Telecommunications and Information Agency

OECD Organization of Economic Cooperation and Development

PVO Private Voluntary Organization

RCCI Chamber of Commerce and Industry of the Russian Federation

RRNA Robert R. Nathan & Associates

SABIT Special American Business Internship Training Program

SEC U.S. Securities and Exchange Commission

SIG Support Implementation Group

SDNP Sustainable Development Networking Programme

TDA U.S. Trade and Development Agency

TI Transparency International UAE United Arab Emirates

UNCTAD United Nations Conference on Trade and Development

UNDP United Nations Development Program

UK United Kingdom

USAID United States Agency for International Development

USDA United States Department of Agriculture

USIA United States Information Agency
USIP United States Institute for Peace

USG United States Government

USTR United States Trade Representative

WAEN West African Entrepreneurs Network

WITSA World Information Technology and Services Alliance

WTO World Trade Organization
WWW World Wide Web

Survey USAID/Field Mission Uses of Internet for Economic Reform: Attachment B

<u>Mission</u> <u>Internet Connectivity</u> <u>Message</u>

I: entire open IP Internet
U: widespread domestic sites
connected to open IP; u:minimal
F: widespread Fidonet connected
to open IP, f:minimal

Burundi Mission

Ethiopia Mission I-f

Full IP connectivity just in Jan 1977, but government sole ISP provider. Current Internet use among economic leaders very limited. Internet mostly used for email purposes. Research on Internet and designing home pages are not fully practiced yet. Leland initiative recommends lots of Internet training and pilot activities related to connecting agricultural institutions and trade/investment. Separate OECD/DAC initiative, with USAID support, to establish a GOE-donor coordination mechanism, which is Internet based.

Ghana Mission

IUF

Ghana first among West African countries. Full and competitive private ISP industry Current usage among economic leaders is very limited.

Lots of examples of extending Internet usage to development partners: AfricaLink to scientists and policy makers in agriculture, environment and natural resource management; West Africa Enterprise Network (business and trade data), Ghana Association of Women Entrepreneurs (business and trade data, and marketing), University of Ghana, Private Enterprise Foundation, Ghana Investment Promotion Center, Ghana Export Promotion, Federation of Associations of Ghanaian Exporters, and GOG Ministry of Trade and Industry.

Re economic reform, new Trade and Investment Reform Project (TIRP) begins in September and seeks for greater government and private sector cooperation in economic reform efforts.

Furthermore, Ghanaian Institute for Economic Affairs is fostering partnerships for economic reform and economic growth thru use of Internet.

Guinea Mission

-u-

Kenya Mission

IUF

Madagascar Mission

IU-

Government provided ISP in March 96. Leland has introduced private participation and five private providers expected to open this year Internet usage in embryonic stage.

Mission and Malagash Government and population have not had much exposure to Internet. Mission uses it primarily for email, and some research. However, there is a good example of using Internet animation for environmental awareness. Another example of using Internet to research t-bill pricing and auction. PACT is using Internet also in its programs. Mission sees great potential for Internet ending isolation of this island republic, but it will take some time to introduce Internet technologies and develop a comfort level.

Malawi Mission - - f

In July 97, government controlled ISP established. Belief that over time government control will be broken.

Mission uses Internet for communication and accessing USAID home page. No known use of Internet for projects. Overtime, Internet will prove very important to economy, but will take a few years.

Mali Mission -Uf

Internet just arrive in Mali in July

97.

Four ISP providers to be connected. Several thousand active users by end of year predicted, esp by government and business. Interesting notions of using intranet to improve GOM efficiencies, including budget planning, and access of Internet to radio stations, to provide latest information. Feeling is that Internet access could help boost Mali horticulture exports. This is a Leland country, and six organizations targeted for end-user applications, including a government organization for rural economic research and support, and West Africa Enterprise Network, Mali Chapter.

Mozambique Mission IUF

Two institutions, one a university and one private, provide ISP services,

though limited.

No response from Mission , but is a Leland country.

Leland suggestions relate to networking among NGOs, and civil society

types of uses. Nothing on economic policy reform.

Niger Mission IU-

Rwanda Mission - - -

Senegal Mission IUf

| South Africa Mission | IUF |
|----------------------|--------------------------------------|
| | South Africa is among the leading |
| | users of the Internet in sub-saharan |
| | Africa. Lots of users and web sites |

and relevant issues.

dealing with host of different topics

Tanzania Mission I-f

Uganda Mission I-f

Zambia Mission I-f

Zimbabwe Mission Iuf

Angola Office I-f

Benin Office I-f

Political parties use Internet to distribute policy papers and discussion pieces. Research community, both private and public, use the Internet to exchange ideas. The South African Network for Economic Research (SANER) is establishing a website to support its economic research. Mission uses email, has its own webpage, projects have webpages, listservers and discussion groups. Discussion re using Internet for distance education.

AFR's EAGER Project is active in South Africa and uses the Internet for communication and sharing research.

NGOs do same. SangoNet is a South African NGO network.

Provided copy of Leland initiative report, dated Jan/Feb. 1997. According to report, Zambia appears promising. USAID's Regional Telecom Restructuring Project has helped GOZ establish a good policy environment. Number of recommendations made, including establishing an AID-AG listserve, legal information institute, IESC, Zambia Association of Chambers of Commerce and Industry.

Cape Verde Office Eritrea Office - uf The Gambia Office - - f Guinea-Bissau Office Liberia Office - u -Namibia Office IU-Somalia Office Nigeria Section IUf The Sudan Section I-f REDSO/ESA n/a

REDSO/WCA

East and southern Africa regional government and business organizations, COMESA and ESABO, have been active. USAID has supported ESABO, the private sector regional grouping, with support that includes Internet connectivity. Specific policy reforms pertaining to cutting of tariffs, and food security have been obtained, but unclear how important Internet technologies have been. Heads of both groups coming to Washington shortly.

RCSA (Regional Center for Southern Africa - in Botswana) Iuf
Full Internet access came to
Botswana only this year, now two
ISPs which are private. Reasonable
rates are charged but service mostly
in Gaborone. Most use in Botswana
by universities and business people,
not govt.

Bangladesh Mission IU-

Internet access controlled by Bangladesh phone company, costs very high. However 4-5 private ISP providers.

Cambodia Mission -u-

New SO focused around regional networking, such as chambers of commerce, consumer unions, etc where Internet can help facilitate communications.

Internet used by USAID primarily for communications and document transmittals and editing. Not yet distance TA and training.

An excellent site in Africa for what is happening on Africa Internet is run by Mike Jensen, a knowledgeable consultant in South Africa:

http://www3.wn.apc.org/africa/

Regional telecom restructuring project may be of interest.

Botswana is a Leland country. As of August 96, little use of Internet made by Mission or partners, even email communications relatively new.

Overall mission has a combined home page. Managed by USIA. Not much use claimed in use of Internet for Mission programs.

India Mission

IUF.

Country use of Internet very limited. Only one provider, VSNL, which is government owned and controlled. No private ISP providers. VSNL covers four metros and a few major cities such as Pune, Lucknow and Bangalore. Expensive to lease plus dialup costs, plus depends on public telephone company for service.

Three projects use the Internet. Two are business transactional in nature: The Trade in Environmental Services and Technologies (TEST) Project and the Agricultural Commercialization and Enterprise (ACE) Project. One project uses Internet technologies for environmental NGO networking. Another USAID partner proposes to offer distance learning systems for secondary schoolers. Finally a technology development project uses the Internet as a clearinghouse for the food processing industry.

Indonesia Mission

IUF

Despite lots of web pages, use of Internet among economic leaders limited to few academics and technocrats in major cities of Java. But use of Internet likely to grow rapidly over the next five years.

Growing phenomena with lots of potential in Indonesia. Economic Law and Improved Procurement Systems (ELIPS) Project is using electronic bulletin boards (just one month) at the Ministry of Justice's National Law Development Center. Users mainly the government, issue is the demand for legal information in Indonesia right now. Could be used under the Partnership for Economic Growth program.

Nepal Mission

Iu-

Internet not widely used today. Three ISPs, but use leased lines with Singapore or Bombay. Expensive. Policy makers just coming to grips with regulations, etc., not widely understood or used today. USAID uses Internet for email, home page, retrieve relevant information; long distance technical assistance (from offices in Washington).

The Philippines Mission

IuF

Internet is extensively used in the Philippines. All major public and private institutions have email address.

Mission had Agency's first website. Internet used by mission in email, research, webpages, public education, and research applications. Not yet in long distance education or long distance TA.

Economic growth portfolio uses Internet extensively. Examples are in capital markets development, trade and investment information systems, dissemination of public information statistics, linking revenue information systems , government credit policy reform, taxpayer information systems, telecommunications and government securities trading. Philippines can put fancy web pages together but takes too much time to download, and question of sustainability. World Bank and ADB use Internet extensively, ahead of other bilaterals and PVOs. Several suggestions for creative use of Internet: cost effective ways of making market information available to small businesses, improving public awareness of major policy issues, providing background information and key data to policy makers, increasing computer literacy among youth and in rural areas, and promoting economic literacy.

Sri Lanka Mission

IU-

Now 5 private ISP providers. Heavily used by business community, and increasingly by NGOs, government and donors. Examples of using Internet to support economic growth and reform are those of Colombo Stock Exchange, the Central Bank of Sri Lank, the Board of Investment, and the Public Enterprise Reform Commission. These web sites provide information on private listed companies, investment opportunities, incentives and policies, macroeconomic and financial sector policies and trends, and information on government's privatization efforts.

USAID now developing its own web site as part of Embassy site along with USIS. TIPS and Agriculture Enterprise Projects are using Internet to access new technologies and learn of market and business partnerships.

Mongolia Office

I -- -

Egypt Mission

IU-

Interim reply. Awaiting full response.

Jordan Mission

I-f

Morocco Mission

Iuf

Early stages of Internet, but in last two years a number of ISPs have established themselves. More and more organizations using email at least, some establishing web sites. Morocco is a mature economy with a substantial government. Three Economic Growth programs: MAP (agribiz), SME development, and

Microfinance.

Eg: Ministry of Privatization has a home page; Ministry of Ocean Fisheries has a website (http://www.mp3m.gov.ma/] with information on seafood products; Ministry of Agriculture is wired but limited use of Internet; USAID uses Internet for communicating, researching topics, use of LAN for Ministry of Agriculture sites; might connect professional

associations; etc.

West Bank/Gaza Mission Palestinians starting to use Internet, but only recently have computers and literacy. Used to focus on researching legal issues. USAID uses email and research over Internet; no home page.

Small Business Support Project provides Internet connectivity throughout the Palestinian territories. May go regionwide. Development of economic

growth policy materials in Arabic would be very useful.

Lebanon Office IU-

Albania Office I - -

Bulgaria Office

IUF

Increasing interest and use of Internet

The Privatization Agency and Foreign Investment Agency, e.g., have web pages. Less utilized within other government organizations. Big increase expected over next 5 years.

Biggest use of Internet is email and then home pages, which used by several projects. Internet support for small/medium enterprises increases economic growth through the seven member organizations in the Firm Level Assistance Group (FLAG); all have web pages connected with USAID's. Central Securities Depository will use similar technologies once hardware and software are in place. Mission working with a group of NGO partners to establish a USAID "Synergynet" which will link all programs to an overall USAID home page. Hope to improve cross sector coordination and cooperation.

Croatia Office

IuF

Czech Republic Office

IUF

Hungary Office

IUF

Widespread use in Hungary. At recent SME conference, proceedings used to get information out to nine country small business communities. Mission uses Internet for email communications, long distance technical assistance, and web page information sharing. In agribusiness, information provided re prices and markets. Creative use: Link all USAIDs; evaluations provided instantaneously.

Regional Support Mission in Budapest

Latvia Office

IUF

Lithuania Office

IUF

Several hundred web sites in Lithuania, including Parliament, brokerage firms, central bank, etc. Started over past year. USAID has its own web site, all advisors use email. Only one project (capital markets) has a web site. Intermittent advisors keep advising long distance, but no long distance education.

Macedonia Office

Poland Office

IUF

IuF

Slovakia Office

Romania Office

IUF

Russia Mission

IUF Thousands of email addresses.

Hundreds of web pages.

Response will come by mid September.

Most thoughtful and comprehensive response. Internet used extensively by economic leaders in Russia. Should also explode in next five years as telephone infrastructure improves. Lots and lots going on in Russia. Many web sites to explore as follow-up. Economic Growth helped by Internet in following projects: Business Collaboration Center, Junior Achievement International, Eurasia Foundation, Russian Longitudinal Monitoring Survey.

Other Donors: World Bank distance learning, Ford and MacArthur Foundations, TACIS (European Community). Creative uses: Closer links to Russian sites, distance learning, data and research groups.

Ukraine Mission

IUF

Armenia Mission

IIJ-

The Internet is not yet widespread in Armenia, the main constraint being the weak communications infrastructure. However, investments are being made in upgrading the local phone backbone, but a government monopoly still controls services.

The Internet is used for internal USAID management, such as downloading bid proposals. USAID projects do not use the Internet yet.

However, USAID is involved in building up information technologies for the Central Bank of Armenia.

The USAID Mission sees investments in telecommunications infrastructure, including the Internet, vital for Armenia's long term development prospects. Full Internet access would allow rograms to support economic growth through small-medium scale enterprises, as well as education, health and political development.

Regional Mission: Central Asia Kazakstan: IUF Kyrgyzstan: IU- Internet used by USAID/CAR in use in Almaty, Being installed in Tashkent soon. Others do not have access yet. USAID now developing its own home page and intranet.

Mass Privatization Project (MPP) has a home page. Provides access to company information on privatization and securities market to anyone. Also Global Training for Development has a home page with WWW access. Legal Resource Centers have email.

Bolivia Mission

IUF

Internet use is quite limited, only a few companies which offer services. BOLNET has 3400 customers, and 100 companies, sponsored by one of the donors.

Obsolete telephone system hinders use as well as excessive regulations and private monopolies of telecom services. Some use of Internet among projects, but not specified.

Dominican Republic Mission

IUf

Ecuador Mission

Iu-

El Salvador Mission

Iu-

Guatemala Mission

Iuf

Internet usage has gotten into full swing this past year. Most economic leaders have access either at office or at home. In next 5 years, use of Internet will be commonplace in small-medium sized businesses.

Widespread use of Internet predicted in five years. USAID uses Internet intensively internally. No economic reform program for Ecuador. However, suggestion of a web page that could be developed that has successful economic reform, experience of different countries by subject/topic, e.g. privatization, fiscal policy, etc.

Guatemala is a regional mission. Internet used for email communications, Setting up home pages for different regional SOs (Will be accessed by clients to provide information and receive feedback); for research, and for long distance learning (Lucy Sotar's initiative). Trade and Economic Analysis Office supported home page by an autonomous regional economic organization to improve information management.

USAID should use Internet for "virtual consultants". Also virtual conferences. Universities should be able to write up USAID case studies and given opportunity to provide feedback.

Haiti Mission

Iu-

Honduras Mission

Iu-

Overall use of Internet among leaders is relatively low, but is gaining momentum..

Business community readily sees value of Internet, and it is taking off. Basic education project has a home page for information exchange. Number of projects have agricultural market information. Two policy institutions are working with USAID to develop home pages. Other donors lead USAID because of superior software. USAID should post information, such as policies regarding cooperative agreement and grants, etc. Teleconferencing over the Internet will be a big help.

| Jamaica Mission | Iu- | |
|-------------------|--|--|
| Nicaragua Mission | Iu- | |
| Panama Mission | IuF Now 7 ISP providers, Internet email more widely used since 1997, most government officials use it, and more and more business leaders are seeing how useful it can be. | Mission and several projects are going to develop home pages. No connection yet between Internet and economic reform. Donors not using it much yet. Move to electronic commerce. |
| Peru Mission | IUf | |
| Brazil Office | IUF | Short reply; not much going on with Mission, although Brazil has wide use of the Internet. |
| Columbia Office | Iu | |
| Guyana Office | Iu | Limited use of Internet in Guyana; primarily used by USAID for email and research; not much re economic reform yet, no creative uses known. |
| Mexico Office | IuF | |
| Paraguay Office | IU- | |

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July 30, 1997

Name, Director USAID City, Country Fax No.:

Dear :

Subject: Application of Internet Technologies to Economic Reform

I am presently conducting a study for USAID's Center for Economic Growth, the objective of which is to develop new cost-effective approaches for USAID to promote economic reform in developing countries and transitional societies via use of the internet. The study calls for a survey of how USAID programs are already using internet technologies to accelerate economic growth through economic reform so that others can benefit from your experiences. Thus, I would like to ask that your Mission please take the time to respond to this query. I would greatly appreciate replies by August 23 if at all possible.

- 1. **Country Use of the Internet**. How extensively is the internet used in your country among economic leaders in and out of the government? What do you see happening in the next 5 years?
- 2. **USAID Use of Internet**. How are USAID programs currently using internet technologies (e.g. e-mail, home-pages for projects, public education, research over the internet, long-distance education, and long-distance technical assistance) to further development objectives?
- 3. **Supporting Growth Through Economic Reform**. Please describe any USAID programs underway which employ internet technologies to promote economic growth through economic reform. How are these programs conducted and how effective have they been? What works and what doesn't?
- 4. **Other Donors/Non-Profits.** How extensively are other donors and non-profit organizations using internet technologies to accomplish development objectives, particularly those associated with economic growth through economic reform? Are there any lessons for USAID?
- 5. **Creative Use of the Internet.** Beyond current applications, do you have any suggestions on innovative ways in which internet technologies could help accomplish your Mission's economic growth objectives through economic reform?

Thank you for taking the time to contribute towards this important study.

Sincerely yours,

Steve Mintz (internet34.doc)